

Rec Jan 9th
Ans Feb 20

Charlotte, Vermont.

Dec., 25, 1878.

Post mark Jan 2nd

Dr. Geo. Engelmann,

Dear Sir:

Your letter on Topics in the line of my study was most-welcome; I am only sorry to show you how little progress I have yet made. I have postponed my reply with the hope that I might get out into the fields and learn something worth telling you, but winter has closed in upon us and forbids satisfactory observation of fir or oak.

In 1876 Prof. Sargent sent me to look after *Quercus ambigua*, Michx. f., and I searched as much as I could find opportunity - sending him a good many forms of *Q. rubra*, and specimens of *Q. coccinea*, which, as he informed me, you happened at Cambridge about that time, promised to be



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clearly the var. *tinctoria*. As far as I know
this is the only black or scarlet oak in Ver-
mont, and I have seen it nowhere in this
region except on the sandy bluffs and prairie
about the mouths of the Winowski and Lamoille
rivers flowing into Lake Champlain. My
specimens of acorns agree well with your *Q.*
tinctoria of Missouri. I will send it under
N^o 1. Yes!

In the fall of 1877 I tried again for
Q. ambigua and spent about a week looking
through the oaks of the shores of L. Champlain,
out of the hundreds, perhaps thousands, of trees
which I examined, all were *Q. rubra*. The
acorns and cups varied greatly, as I shall
show you under N^o 2, but none, as I could
see, varied toward *Q. coccinea*. I gave most
attention to the leaves and fruit, but my
attention was not attracted by any differences
in bark.

It was my intention to pay thorough
attention to this matter again the past



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autumn, but our oaks were without fruit.

While speaking of oaks I may add that Q. macrocarpa is abundant with bicolor in this valley; that Q. Prinus is common on the warm rocky hills of N. Vt.; that Q. prinoides extends to this vicinity; and that I know of a few trees of Q. Muhlenbergii on an island of L. Champlain.

To mention hybrid oaks, — I know of a large grove near here, where grow with good specimens of Q. alba and Q. macrocarpa many intermediate forms; on the little island just mentioned are trees which I have been in doubt whether to call bicolor or macrocarpa; and a few weeks ago I came upon a singular tree (not in fruit) standing in proximity to Q. alba and Q. Prinus whose bark can best be described by saying it was quite like Acer saccharinum; specimens of its leaves I will send you under No 3. I intend to look after these forms.



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To answer your question about *Abies*
rubra, Lambert, I need to take another
year. Until the past season I thought I
understood *Abies nigra* and *alba*, but
on the mountains last June I found
myself in perplexity. When I can go there
again, I think I can soon get the
mountain species right by the aid of
your letter. By the specimens which I
send I anticipate you will allow that
in the cold swamps of this valley of Lake
Champlain we have *A. nigra*. From the
mountains I am only able to show you
the few cones numbered 2.

I wish to improve this opportunity to sub-
mit to you some specimens of *Isotria medeolae*
growing together in Lake Champlain, July, 19/78,
to ask if all are var. *Braunii* of *Ischnospora*,
and also some specimens of *Sparganium simplex*
from Hermit Lake, White Mt., Aug., 24/78, to
know if it is the variety *fluitans*.

Yours sincerely, C. G. Pringle.



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Recd March 6th
Apr 4

Charlotte, Vermont.

March, 2, 1879.

Dr. Geo. Engelmann,

Dear Sir:

I must express my sincere
thanks for your interesting letter of Feb. 20th.

I will answer such of your inquiries, as I
am now able, and charge myself to watch
the curious *Carex*, *Sparganium*, etc., in question
and report to you with specimens in autumn.

The Lake Champlain specimens of *Sagittaria*
echinospora, var. *Brassicifolia* were not growing
in deep water and were not deeply embedded
in mud; but they were growing from a floor
of fine sand covered with less than two feet
of water. The station is nearly 50 miles from
me, but I expect to pass that way again the
coming summer, and to make a point of
getting mature specimens.

I did not receive account of the



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Minnesota black oak, and therefore am unable
to say whether we have anything like it in this
region.

I am planning to work down the St.
Lawrence and on the Saguenay during mid-
summer, and may possibly reach Labrador.
If it occurs to you to make any suggestions of
observation or collection to be made in that
field, I would be glad to receive them.

Yours sincerely,

C. G. Pringle.

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Rec June 2

Charlotte, Vermont.

May, 29, 1879.

Gen. Engelman, M. D.,

My Dear Sir:

During a recent walk
of many miles over Mt. Mansfield and
its neighboring mountains I gave particular
attention to the Spruces. It is, I think, *P. nigra*,
var. rubra which forms the greater part of
the forest on the higher portions of the
mountain; I detected nothing like *P.*
alba. With respect to your query whether
there are intermediate forms between the
form which bears small persistent cones
and this one so abundant on the mountain,
I can not yet answer clearly. In the
parent, which I send by the same mail
with this letter, you will find a twig
with rather small cones; they, like those



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hope of learning the first something about it. and perhaps.
Yours sincerely,
C. G. Thiele.



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of the other branch enclosed with it,
still adhere, but it is mainly because
the trees from which they were taken,
having been felled early last winter,
were not exposed to storms which would
shake ~~the~~ the cones down. On the tree
which yielded me the smaller cones, were to
be seen a few acorned cones, & the growth
of 1877 as I thought, but there were none
older. Under the spruces everywhere the ground
was strewn with the cones of 1878 of which
you will find specimens loose in the packages;
on the trees were few remaining. So my ob-
servations of this trip confirm, as far as they
go, your belief that the cones of var. rubra
are chiefly deciduous the first winter.

I have secured specimens in flower of
my hybrid oaks; all our oaks promise me
~~Pedunculata~~ abundant harvest, or I am in



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Rec Nov 28

Nov 30

Nov 1899

Ingles River

Nov 1899

Nov 1899

East Charlott, Vermont.

Nov., 23, 1899.

Dr. Geo. Engelman,

My Dear Sir;

During the past season

I have been in mind the subject of our

correspondence of last winter. Early in the

summer I sent you fresh specimens of our

mountain spruce, *P. nigra*, var. *rubra*. This

appears to be the most abundant spruce in

Vermont covering all the Green Mountains.

P. nigra is in swamps though they be mountain

swamps. In ^{August} July I was in Lower Canada

on the St. Lawrence and the Saguenay rivers,

on whose cold shores I saw none of this

spruce, only *nigra* with long-persisting cones

often less than an inch in length, and *P. alba*.

This *alba* I shall never again fail to re-

cognize. I believe I have never seen it in

Vermont, though I expect to find it within

the State next summer. On an island of the

Richelieu River 50 miles north of the Vermont

boundary I last saw it coming home; there it



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was growing with *P. nigra*, as further away.

The hybrid oak received my attention. Of the one which we thought a hybrid between *Prinus* and *alba* I secured flowers and fruit. In the grove where *A. alba* and *macrocarpa* are growing intermixed I took flowers of many more *alba* trees, but did not, as I suppose, get after a hybrid tree in spring. This fall, however, I gathered fruiting specimens from a tree which I take to be intermediate between *alba* and *macrocarpa*. I send you specimens. All in the parcel marked 2887 x 2894 are from one and the same tree and are the hybrid as I thought. Fruit and flowers of some of the *macrocarpa* trees mentioned above I send marked A1, A3, A4, A5. If all are indeed *alba*, as I took them to be, they show a wide variation in the species. The specimens marked 2893 x 2894 are all from one tree, the only one of the kind I ever saw. I took flowers of *macrocarpa* by your request, but before I could go further fruit the tree was filled. I send two forms of this species from the grove alluded to. Also a form of *A. rubra* from C. Champlain, found while I was looking in vain for *A. americana*. Could this last have been a hybrid? Thus far I find nothing but *alba* and *macrocarpa*. But I have much ground yet to explore.



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In the packet with the books I put a
number of my discoveries of the past season,
which may interest you.

You will have specimens more mature,
as desired, of the stout form of *Protea ech-*
inopora, var. *Brennii*, from L. Champlain.

Trying for *Sparanium simplex*, var. *fluitans*,
I send a specimen taken from a lake in
the extreme ~~the~~ northern part of Maine.

I show you specimens of Michaux's *Acer*
nigrum. I feel it would only be doing justice
to the plant to restore it to the rank of a
species. It grows not with the "rock maple", but
in swamps and on low river-banks; if it runs
into *A. saccharinum*, I have yet to see the
evidence.

My opportunities for observation of all
these matters will, I expect, be for better next
year, if I travel through our northern forests,
for Prof. Sargent in the interest of Forestry and
the 10th Census.

Yours sincerely,

C. G. Pringle.



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Rec Dec 30th
An Jan 1

Charlotte, Vermont.
Dec., 26, 1879.

Dear Dr. Engelman:

I gladly embrace the liberty you give me to send you another bundle of plants, being the species you have marked on my list and a good number of *Barica* besides. I put in this time flowers of *Acer nigrum*, (this tree grows in low land; on drier soil we have *A. saccharinum*) and more bark of *Quercus Prinus* x *alba*, which you can see is very like that of some trees of *alba*. Of both the hybrid barks sent you I know only single trees.

Do not make such a return of plants as will bring me again deeply in your debt. *Juniperus occidentalis*, and the other species to which you allude, I should be exceedingly glad



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to have. The most of the water lilies of the
Mississippi are represented in my herbarium,
but I have not *A. lamar*, *tridentata*, *pinn-*
ifolia, *rubra*, *var. truncata*, and
some very few that grow westward. Possibly
you may be able to spare the Western *Boerhaavia*
and Western species of *Marsilea*. With
Liliaceae plants I am pretty well supplied,
but *Lilium* species are my great need.

I think we have in Vermont—only
A. tinctoria, and not the typical *acuminata*
at all.

It gives me pleasure to learn that
you found my *Lake Champlain Boerhaavia*
so interesting.

Wishing you a Happy New Year and
many more to come, I remain

Yours faithfully,

E. G. Dring.

Plantago Rugelii is common here.

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Nov Jan 13

Charlotte, Vermont.

Jan., 8, 1880.

Dr. Geo. Engelmann,

My Dear Sir,

I beg you not to let the making up of a parcel of plants for me give you too much trouble. Your君子 pleased me largely in your dicta. Cassia. You thought besides the君子 already sent and J. subtilis you might loan some others for me. Isatis Nuttallii: I would be very glad to see, and the one or two others you allude to. There are all the Lens culms in my herbarium, — arvensis, culm-
recepta, cuspidata, dicora, plumbea, Gronovii, Gronovii var. laevius, rostrata, and uniflora. I am glad you can send some of the western Actes. It is very gratifying to hear that my plants pleased you.

Sincerely yours,

C. G. Pringle.



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Rec May 14th
Am sent by May 17

Wm. H. H. H.

Tucson, Arizona.

May 8th, 1881.

Dr. Geo. Engelmann,

My Dear Sir:

I am just in from a week's tramp among the Santa Rita Mts., and will lose no time in giving you the results of my efforts to find your advice with respect to searching out *Pinus Arizonae*. I flatter myself that by the aid of the instructions and notes given me by you, I was able to refer to its true place every pine met with there. The long-leaved tree seen chiefly about the saw mill I took to be *P. ponderosa*, and one of which I met with but a few specimens here and there, whose leaves were only two inches long, I judged to be an unusually sterile of *P. Chihuahuana*; its peculiar con-



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dition appeared to be due to fall insects.
From the saw-mill one day I
turned to the left and climbed
the mountain for nearly 2000 feet
above the mill and the following
day I ascended to the right of
the mill and passed over the
mountain top to the summit of
Mt. Wrightson, the highest of
this range; and after traversing two
miles of mountain groves I judged
the species of *Pinus* of which I
sent you by the same mail with
this flowering specimens and cones
(the latter of minimum size; on
the more thrifty trees they were
three inches long,) and which I
suppose to be *P. Arizonica*, to
constitute seven eighths of the pine
timber of these mountains which
is of size fit for sawing. The
anemoid makes the altitude of the

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saw-mill site 6000 feet; at this elevation there are but few specimens of this tree; but between 7000 and 8000 alt. it is abundant. *Pinus ponderosa* mingles with it near its lower limits, as also, does *P. chihuahuana*. Scattered specimens of *P. Strobliformis* bear it company throughout its entire range, up to 8500 feet on Mt. Wrightson. On certain grassy slopes and ridges high up on Mt. Wrightson and its neighbors are some noble groves of this *P. Arizonae*.

In another package I send you flowering specimens of such oaks as I have met with, four from the Sta. Rita Mts., two from the Sta. Catalina Mts. as indicated. Will you be so good as to tell me at your earliest convenience their names as numbered? *Quercus oblongifolia* and *hypoleuca* I feel certain about; besides these Prof. Sargent wishes me to get the sections of *Q. reticulata*, Emoryi, and



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grasses, which he says grow on the Sta.
Ritas. Should either of them be lacking
in my set of specimens please show me
a leaf of it, and if you could do the
same for me with respect to *Q. pungens*,
and *Gambellii*, it would aid me in
identifying them, when I meet them, for
I have no descriptions of these oaks with
me. The species so near *Q. alba* ^{*gambellii*} grows on
the very summits of the mountains mostly
as a shrub in company with and similar
in size to *N° 4* ^{reliata} (at that height) but sometimes
as a tree 15 feet high.

Mr. Sargent has put on his list
for me to collect *Prunus Capollin*, given
in his Cat. as a synonym of *P. serotina*; on
the Sta. Ritas I found a *Prunus* growing 10
a tree and send with the oaks a specimen
to ask if this is what he wants.

In a third parcel I send you spec-
imens of a *Mammillaria*, which I thought
might interest you, as it has a milky juice.



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May 8 1881

A pressed flower is in this letter. I found a limited number of plants on the summit of those foothills about the mouth of the Sawmill Canon in the Sta. Rita, which you may remember. They were growing firmly wedged into the slate and sandstone ledges of the hill-tops, their crowns, 2 to 5 inches broad, seldom elevated above the surface of the earth.

My excuse for troubling you with some of these matters is that it requires a long time to get an answer from Boston, and I wish to return to the Sta. Rita in about two weeks, hoping then to find in flower *Pinus Stroboformis* and *Chihuahuana*.

Dr. Parry has intimated to me the possibility of your coming into Arizona during this month; and I fondly wish you might accept a seat (and and) in my covered wagon. We could travel almost at our own will and discreetly with a good team and one or two ~~men~~ ^{men}.



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I am living independently. I reached here just as the spring flora was bursting forth, and the strangeness of everything in this country and the multitude of species of plants, embarrassed me for a while; but I am beginning to feel at home here. I am making 25-felts, and have for them the first month about 170 species.

Arizona is even dryer than usual this spring, and there are few plants to be found except along the mountain brooks.

I am trying to do justice to the Cactaceae, as I hope to show you.

Yours faithfully,

C. G. Pringle.

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Rec May 30^s
Am. Sum. Ny

Tucson, Arizona.

May 24th, 1881.

Dear Dr. Engelman;

Many thanks for your kind
and full letters of the 14th and 17th.
I am sorry and disappointed to hear of
your illness; but you permit me to cherish
a hope that I may have the great ad-
vantage and pleasure of your company in
this rich field. If you can come, there
will be little need of your climbing
the mountain; I will be leg and eye
for you, and bring down to you all the
mountain yield; if, however, you find
it quite impossible to come to the mount-
ain, the mountain shall go to you, or as
much as possible of it as I think you
may wish to see.

So today I send you another parcel,
— *Quercus grisea* to show you female



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Q. Emoryi

flowers, and, to prove the species emeryi;
Q. reticulata, female as well as male flowers,
a juvenile - Santa Catalina Mountains,
G. Brooks, May 14th; a specimen of
Greenella Arizonica, mesa south of Sta.
Catalina Mts., May 16; and a specimen
of a Leguminaceous shrub or tree some 15-
feet high, found in a canon of the Sta.
Catalina Mts., May 16, 1881, which I
am quite unable to determine.

Now that I am fully instructed
by you in regard to the bases of the Santa
Rita Mts., I am on the point of returning
there, and hope to find that I have
calculated right about the time of
flowering of *Pinus reflexa* and *P. Chi-*
huahuana. I shall look further for
such branches of the latter, as you mention;
on my first visit there I found cones of
three sizes, but those of medium size were
in every instance dead, their growth having
been arrested early in the previous summer.



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I purpose, also, to get larger cones of *Pinus Arizonica*. The specimens collected before were from a tree on a rocky knob and therefore small, and on my long hard tramp I did not bring down larger ones. I shall take with me your letter and propound to the trees themselves the questions I cannot now answer.

Mr. Lammere has been in my company for the past week; he is confident he has sent you material from the Sta. Catalina sufficient to show that *P. Arizonica* is a state of *P. ponderosa*; so I must give the closest attention to the two species in the line of inquiry suggested by you.

In my present collection I am having good success; have more than 200 species for my set.

Yours faithfully,
C. G. Pringle.



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Rec June 6th
An — 7

Tucson, Arizona.

June 1, 1881.

Dear Dr. Engelman;

I am just in from my second visit to the Santa Rita Mts., and will report as I am able. This time I explored Welischi Cañon, the ample canon southward from the Saw-mill Canon and between the two principal mountains of the range. How I wish you had visited this one last year instead of the other. Its gently rising trail led up to the tree you wanted to see, and there are numerous specimens at hand for examination.

The *Arbutus* was in flower, and I send you specimens; as I do flowering specimens of *Pinus reflexa* and a young cone to show appearance at flowering time.



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the latter in the roll with the cones of *P. Arizona*. I examined a good many trees of *P. Chickasaw* at its lower limit, 6000 ft, and concluded it had not yet come into bloom nor scarcely started into new growth.

Pinus Arizona was all out of flower, so I was unable to get better male flowers than those sent you before, but I remembered your request for young shoots and half grown cones, and secured specimens which I send in a roll.

Now for the position of *P. Arizona* and *P. ponderosa* running into each other. Mr. Lemmon came in from the Sta. Catalinas in high spirits after I had sent off my specimens of *P. Arizona*, and much disconcerted me by telling me that he had proved that *P. Arizona* was a myth, only a state of the polymorphous *P. ponderosa*, and that he had sent you material to show this. He had taken a room next my house



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and was with me, when your acknowledgments
of the verity of my specimens came to hand,
and I read him your letter, which caused
him some chagrin, especially as you had not
written him in the matter. But he believed
I might find trees on the Sta Rita bearing
leaves in 3's, 4's, and fives a burrmanally.

For a time as I climbed over the
heights of these mountains first - below *P.*
ponderosa all right with three long coarse
leaves, next - higher up *P. Arizona* began
to mingle with it, but the leaves of this
were always in fives and slender. I could
distinguish no difference in the appearance of
the bark, and the sap-wood of *P. Arizona*
was found to be remarkably thick like
that of *P. ponderosa*. The bark of *O. nutans*
did I find the concolorous. The odor of
the young shoots of *P. Arizona* was strongly
resinous, but they were glaucous. The leaves
of *P. ponderosa* remained ~~characteristic~~
characteristic and distinct as I passed.



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near the summit of Mt. Wrightson,
through a fine grove of pines, trees 40-80
feet-high and 2-3 feet in diameter,
I judged I had left *P. ponderosa* below
me, but shortly after in a depression
on the crest of the mountain, 8000 ft-
elevation, I was in a scattering forest-
of pines similar to those seen by Mr. Sumner
on the summit of the Sta. Catalina. Twigs
from several of the trees, which I forwarded
to you in the box, will show you what the
trees were.

I expect soon to go again to the Sta.
Rita, where I will further observe these
two species.

Quercus grisea was abundant in
Welch's Canon from 4000 to 6000 feet
elevation; and *Q. reticulata* found before
above the Saw-mill, 6500 ft. Then descended
lower, even scattering down to 4000 ft.; but
the leaves were smoother and less toothed.
There on the slopes of the summit of Sta. Rita, on the sp.
I am not yet prepared to say that these
two species quite met in an intermediate state,



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Jun 14 1881

J

Q. gambelii was more abundant here than on the saw-mill side of the mountain, and from 6500 to 7000 formed a large tree from 12 to 18 inches in diameter and some 30 feet in height.

The *Arbutus* was a common tree from 4500 to 7000 feet altitude, and was conspicuous on the mountain sides from its red old leaves just about 10 feet.

The *Prunus* was not rarely seen, usually a tree a foot in diameter and twenty feet high.

Quercus Linzeyi was abundant from 4300 to 5500; *Q. oblongifolia* on the foot-hills without scarcely entering the canon.

Vitis Arizonica was in flower all along the brooks. I collected it a month ago in the warmer southern canon, but I am troubled to find the specimens in the bottom of my grub-pile.

Again *Schottii* I did not see, but it is now in flower in the St. Catalina, where on high slopes, 3000 to 4000 ft.,



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June 1st 81

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I have seen fields of it. Thence I brought
not long since living plants for you
to be sent - today; and if I go there this
afternoon, as I expect to do, I shall get an
abundance of flowering specimens. I go to
look after a *Cupressus* very near, if not
identical with Mr. Penn's *C. Arizonica*,
which I have found in the canons of
these mountains.

I should add that as before I have on
the N.W. Ridge but few specimens of *Pinus*
Chilleanum, and as before noted *P.*
reflexa was growing scattered from 6500
to 8000 feet altitude.

In the parcel of pressed specimens you
will find a young pine which I think
must be either *P. Arizonica* or *P. reflexa*.
Few young trees are to be found in the dry soil.
The date for the specimens is May 28th.

Hoping to hear that your health is restored,
by this time, I remain, yours truly,

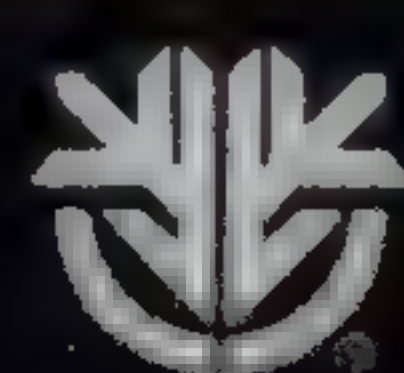
C. G. Pringle.



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MISSOURI
BOTANICAL
GARDEN

Rec June 16
Am — 22

Engelmann
Smith
H. Allen
H. Wilson
H. R. H. H. H.

Tucson, Arizona.

June, 11th, 1881.

Dear Dr. Engelmann;

The privilege of a correspondence with you, while I am in this interesting field, is one, you may be assured, which I shall endeavor fully to improve despite pressure of work and the fatigued state in which I return to Tucson after a week's work among the mountains.

I am glad to hear you set me tasks. Although you have as yet seen little of them, I have collected a good number of Cactaceae, specimens of which with some observations made upon them I mean to show you at the end of the season. I have not sent you fresh plants, as I did intend doing, partly.



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because it required considerable time
to handle them, but more because
at the time of their flowering I was
much ^{away} in the Santa Rita, where I saw
but few species.

The past-week I have spent
among the Santa Rita instead of the
Santa Catalina Mts, as I proposed
doing, when I wrote last. Five days
in succession I climbed to the
summits of the highest mountains;
The aneroid indicated the highest
peak of Mt. Wrightson to be 9550 ft
altitude. About 1000 feet below
the summit of this peak, June 8th, I
found an oak of which I send you
a specimen, #7; There were a few trees,
the largest 12 to 15 inches in diameter,
low and stocky, growing near the form
of *Q. Gambellii* sent before. Is it
an *Q. Gambellii*? and is #8, which
Lemmon brought from the Chiricahua



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Mts. near New Mexico, the same as *Q.*
Gunnisoni?

I gave much attention to *Q. grisea*
and *Q. reticulata*, and became convinced
that I had been taking a large-leaved
form of the former for the latter species.

Q. grisea is a variable tree varying on
the one hand, I should say toward *Q. pur-
purea*, as Nos. 9, 10 and 11 would indi-
cate (is #12 *Q. pungens*? It is a shrub of
a few feet on the mountain top,) and on
the other hand toward *Q. reticulata*. #13

I have been calling this latter species, but
now believe it to be *Q. grisea*, because between
such forms of *Q. grisea*, as I have been
sending you, and this is a gradation of slight
differences as respects the leaf, and because
the bark is that of *Q. grisea*. *Q. reticulata*
is a much rarer tree than I have been
saying; its range is from 6500 feet
elevation, & where it is a small bushy
tree of 6 to 12 inches diameter and 15 or



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20 feet high, up to the very mountain
summits where it is only a shrub of one
or two feet. No. 14, ~~Sept~~ May 28th,
represents the former state, No. 15, June 8th,
forms of the shrub. Now I have no dif-
ficulty in distinguishing the two species; the
bark of *Q. prima* is furrowed or cracked,
that of *Q. reticulata* scaly; the leaf of
the latter is convex that of the former
usually plane. The difference in the ap-
pearance of the two trees hard to describe
is nevertheless striking.

No. 16, June 8th, at 8000 ft elevation,
I take to be *Q. chrysolepis*.

No. 17. young sapling shoots of *Pinus*
arizonica. I believe in *P. arizonica*
as a species. On the range of mountains
among the Sta. Rita this time most
abundant by me *P. ponderosa* is more com-
mon than before even to their summits;
and I saw less of the confusion than
on my last visit. I think I can



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June 11th 5-

I came upon a young tree of *Pinus reflexa* which had its leaves for the most part in flower, almost invariably distinguish the two species at a distance. The leaf twigs of *P. Arizonae* are more numerous, so as to form a closer or denser foliage; the leaves are shorter and finer. I now believe you are right about this tree, and hope to furnish you yet ample proof. I will attend to the questions raised in your letter of the 31st of May, for I again to those mountains, and more than once. *P. Chihuahuensis* had not yet come into flower.

I think — indeed I am scarcely any more persistent still on *P. Arizonae*, and not few on *P. ponderosa*.

I almost despair of getting young seedlings of pines; little rain has fallen here for the last two years, and this year is drier than ever, so that many plants not growing by the streams make but a poor growth or do not appear at all.

#18 is a pine, found June 8th, I suppose to be *P. edulis*.



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June 6th (alt. 6000 ft.) I secured
for you a few specimens of *Vitis Arizonica*
in flower. June 10th, came at foot-
of Sta. Rita Mts., I came upon *Thurberia*
in flower.

No 18 is a Cypress gathered the middle
of April in the Santa Catalina Mts., -
the 20 or 25 feet high, red bark cracked
vertically and transversely; the same, says
Mr. Judd, as found by himself in the
San Francisco Mts. of E. Arizona, and called
by him *C. Arizonica*. He now says "if not
quite new is to be referred to some Mexican species
not well known."

Mr. Judd went off so suddenly to a new
parish near San Francisco I have without
saying him, - until I follow thither.

Mrs and Mrs. Lamm have gone home
to return here in August - to hunt for n. sp. for
which they are in a great hurry.

Yours faithfully,
C. C. Pringle.



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Rec June 11
Ans — 22

Tucson, Arizona.

June 13th, 1881.

Dear Dr. Engelman:

I wrote you two days ago and last evening came your interesting letter of the 7th. Some of the questions it contains you will find answered by my last, and the specimens sent with it.

Pinus Arizonae; nothing easier than to distinguish young trees of this species from ^{those of} *P. ponderosa*; young shoots in the former much more slender and glaucous. you will see; now I regret not getting the other for comparison; but I shall do all you advise — in time.

Perhaps my specimen will have answered, (before this reaches you,) your query if *Q. Gambellii* has always such pinnatifid leaves here.

Has the *Pinus* evergreen leaves? This question has occurred to me also, ^{as} and I have noticed its thick and shining leaves, and I have seen



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putting it to the tree itself. I can judge no
better from the living tree, I think, than you can
from the specimen sent you; now all the leaves
have the same appearance, and I incline to
believe them deciduous.

I sent a dried specimen of the Arizona
Cypripedium in flower (hope I packed it with
not crumple;) as Mr. Griseb says my tree
is identical with his, I am now going for
wood specimens and will get pieces of the
bark for you (and for my self.)

As I am in the way of getting at this point-
and westward toward San Diego all the trees
of the list Prof. Sargent put into my hands,
it seems unnecessary to us, that I go to New
Mexico; and Prof. S. proposes that I go into
the Sierras of Cal. with a new list, as soon as
I finish here, which may be in 4 or 6 weeks.

I would like to find in these mountains all the
Mexican species (of trees at least) not known to
be in Arizona or N. Mex. before I leave.

I enclose some of Linnæus's scintillating effusions,
yours faithfully,

C. C. Pringle.



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Rec June 25th
As 28

Tucson, Arizona.

June 30th, 1881.

Dear Dr. Engelman;

Your post-card of the 13th is found here as I come in from the Santa Catalinas. I send you dried flowers of the Yucca, from which you can see, I think, that the style is whitish; my recollection is to the same effect.

I am chagrined because I have not helped you more in the matter of Cactaceae; the fact is, I have not been able to carry out all I undertook, though I have worked to my utmost ability. They have mostly flowered, having gone by with a rush about May 15th-20th. To attend to them thoroughly one should have nothing else to do. When I have



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made specimens, I have endeavored to show young shoots with leaves; but of course this method is not so satisfactory to you as to have fresh specimens.

I find here an *Alnus*, the shape of whose leaves does not well agree with the description of *A. oblongifolia*.

In a cañon of the Sta. Catalina I saw a shrub 18 feet high, which I take to be a *Bumelia*, but I can not make out the species.

I met with another tree there with peculiar leaves, the most remarkable thing about them being that last year's leaves are toothed, while those of this year are invariably entire.

I send a specimen of a *Celtis*, and the fl and fruit of the Rhamnaceous shrub to which you and Prof. Sargent directed my particular attention. It ripens its fruit just before flowering and the berries are eaten by some wild



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RDEN
PERS
animals. It is common in these valleys.

I have just got for you the bark of the
Sta. Catalina Cupressus, so you can read its
whole story. It forms a tree 8 to 12 inches in
diameter and 20 to 25 feet in height, branching
abundantly from near its base.

You must feel that it is in gingerly
installments that the mountains are coming to you.

The canons of the Sta. Catalinas are now
heated like a furnace; their vegetation
withered; and the water almost dried
up and so bad that it makes us sick:

But I expect to try them again today.

Yours faithfully,

C. G. Pringle

P.S. Your post-card of the 15th comes in four
days. The more the better! It was *Pseudotsuga*
Douglasii which I spoke of loosely as a "spruce"
Cupressus you now have. Yes, though I work hard
and flatter myself I am getting hold of this
work, it will be little ground ^{of this vast field} I can cover ^{two years} even in.



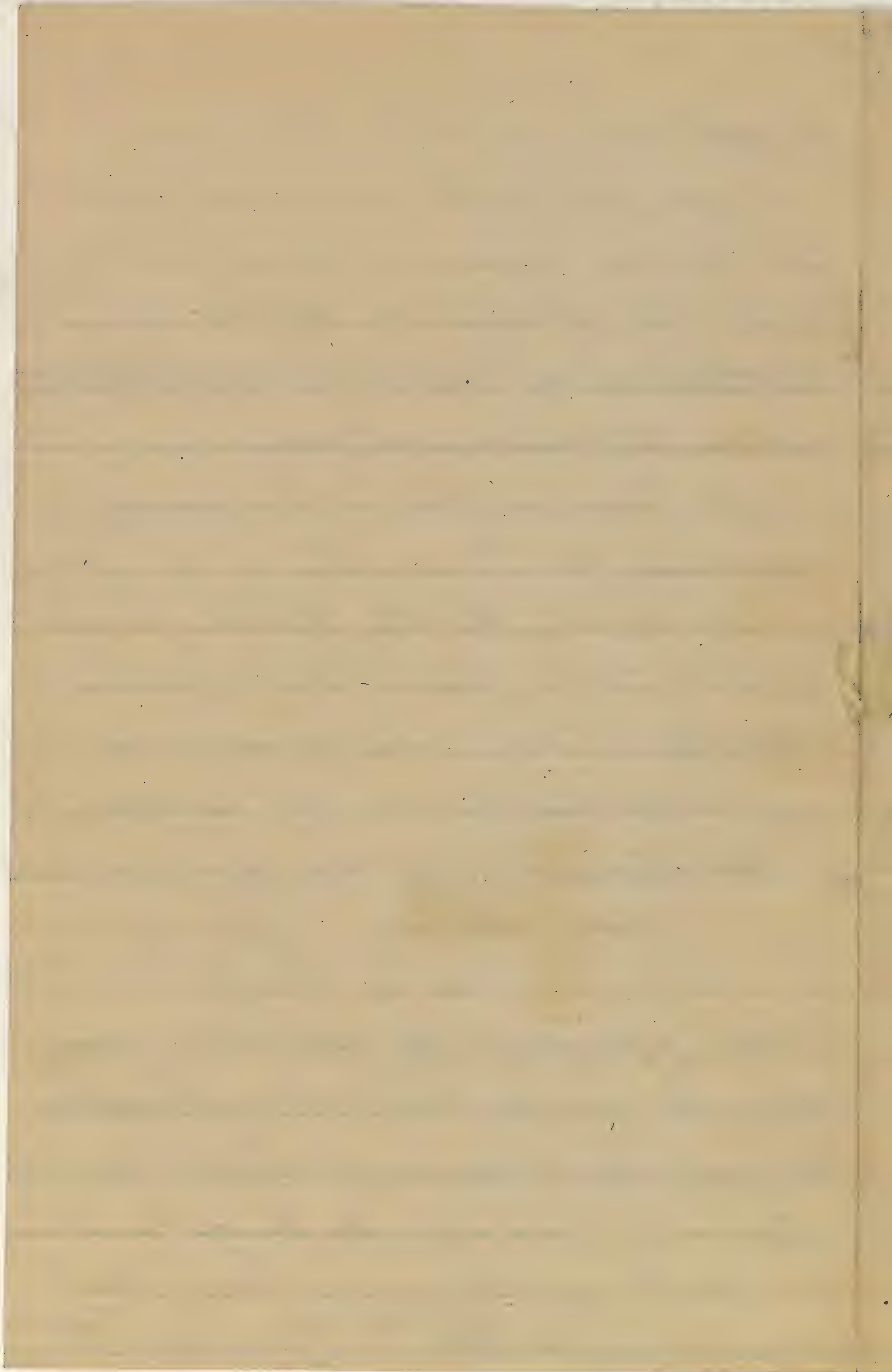
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Tucson, Arizona.

Rec Middle Park Sulph. Spr

July 20

an Aug 16

July 19, 1881.

Dear Dr. Engelmann: Last evening
returned from Sta. Rita where I
have been since the first of the month
tugging at the Museum bags. Few
more days left for Arizona, for
Prof. S. wants me to be in San
Francisco as soon after the 25th as
possible. Glad you have made
15 days to me a look at the trees of the
northern forests. As for Pinus
arizonica, I firmly believe in it as
a species; except - in the one place I
have told you of I can distinguish
it from P. ponderosa at a distance.
Twigs more numerous, buds usually
shorter, rather yellowish green (or
driven olive's green) but in the
spring I was puzzled; this is the last
I saw of; - aside from the vari-
ability of ponderosa shown there, I
think there must be some trees
there which are hybrids between the
two species. Have tribulus grandifl.
and another. Please write me in
care of S. C. Green, Berkeley, Cal.
Must send you more specimens.
Yours faithfully, C. C. Fernald.



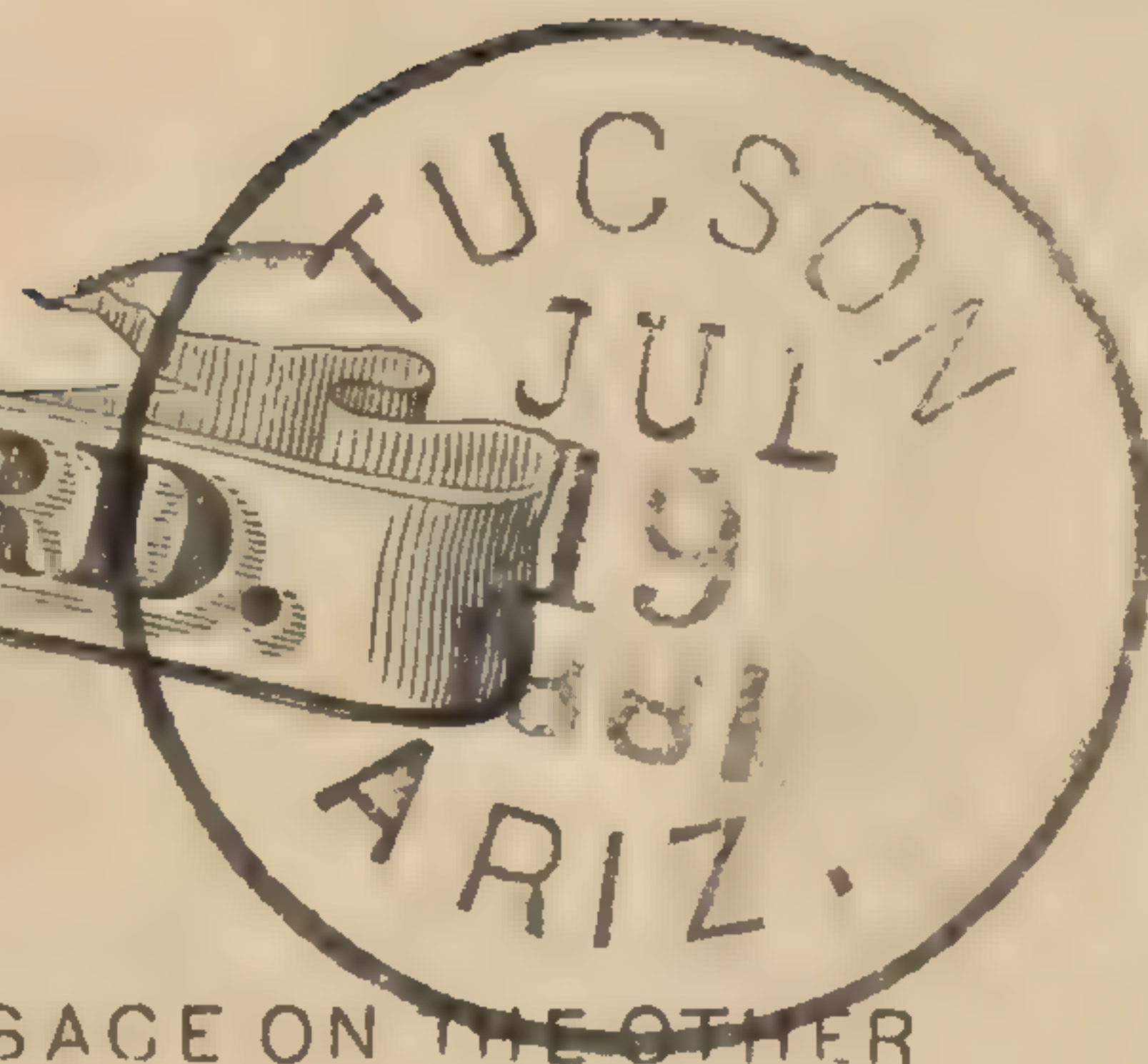
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WRITE THE ADDRESS ON THIS SIDE—THE MESSAGE ON THE OTHER

*Dr. Geo. Engelmann,
Peck House,
Empire City,
Colorado.*

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS



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MISSOURI
BOTANICAL
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Rec Empire City Aug 13th 16
Ans ——— devoted to Thomas
forwarded to Empire

Tucson, Arizona.

July 22, 1881.

Dear Dr. Engelman:

Without knowing whether
you are at home or when you will
examine the specimens, I today en-
deavor to replace the parcel lost, and
hoping lost, I fear, for it was fully
prepaid at this P. O. and not franked.
This fortunately I am able to do with
respect to most of its contents excepting
the five specimens of *Vitis Arizonica* (both
sexes) prepared especially for your use.
Some of the specimens of this parcel, a
good part of them, were not in the
former; the numbers of them that were
are the same as before.



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account for in no other way as I can see, except by the hypothesis of
hybridity. I send specimens from Los An. If I was could have had
two or three days to spend there mountains and study the vegetation and other
where they were to be found, such specimens with many fruits in the collection
it would have given me the most satisfactory, and I might have
perhaps have extracted some specimens; as it is, however, I find Calceolaria in
Pinus Arizona as a good species. When I left I was sure I should see
it again; but here I find only looking over the California in a few days.

Mr. Brown, Berkeley, Cal., will care for my mail as follows:

After I am through with this work, I may return here and again
when I was down off.

I did find a Helium in the Santa Vitas; took it to be the same as a
where Helium I got in the Santa Catalina series. Another Helium was in
Helium there I took to be the R. americana, var. for. I have a fine stock of Helium
var. parviflorum, and another (small flowered) species with reticulate fruit - was
now in the Santa Cruz Valley. All these about the same time was in striped
to Verona with the first - but will with it as the light. I hope you will
notice no much disagreement from indifferent action to that - in any way take,
while I am among the species of the mountain, from Smith Tracy, G. Straw.



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I sent you a post-card 15 Colo., as you desired; but I will repeat to make sure.

I was in the Santa Rita the first summer days of this month continuing, laboring at the museum sections of *Pin. Ponderosa*, a denotation for studying *Pinus Arizonica*, yet I climbed over to the puzzling form you have before heard of. Except here as far as I could travel all summer clear, nothing easier than to distinguish *P. Arizonica* from *P. ponderosa* even at a distance, its foliage a lighter green entirely without the bluish tinge of that of *ponderosa*; its leaf-bearing twigs twice as numerous; the color of the young shoots and character of the bracts very different, as you will see by the specimens; but in the grove in question I was confused. Some of the trees are to be explained, however, I believe, by the variability of *ponderosa*, some leaves in 4's and 5's (though 3 is the preponderating number, I think, always; others can be ^{seen}



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P.S. How late is Pinus Chihuahuana
in flowering! When I left the Santa
Ritas the male flowers were but just
beginning to burst. Their involution
even on trees in warmest aspects of Coahuila
~~at the limits~~. So I shall have no fls
of this species; but I found a tree in the
condition which I show you by a branch
included in the packet with P. Arizona,
which goes to prove you are right in
calling it a triennial (?) fruiting tree.
The smallest cones were living, when I
gathered the specimen. A week or two
later I might get cones of four years on
the same branch!

J.

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Rec'd Express City - Aug 13 Arr Aug 16
Tucson, Arizona.

August 1, 1881.

Dear Dr. Engelman;

We have been some
ten days without communi-
cation with the East by R.R.
or except by telegraph and
part of that time have been
cut off from California. Such
sudden and violent floods
I never saw before.

Tonight we are promised a
mail from home again.

I improve the first opportunity
to send you a package of flowers
of *Yucca macrocarpa*, as you re-
minded of it that the fls. were
unknown. I hope you will see
them. Soon we shall get away
from here; but it is hard, for
the rain has changed the face of
this country wonderfully, and many
strange plants appear.
Love truly, C. G. Pringle.



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GARDEN

PLANTS

BOTANICAL

MISSOURI

GEORGE ENGELMANN

SAINT LOUIS

MO.

POSTAL CARD.

WRITE THE ADDRESS ON THIS SIDE - THE MESSAGE ON THE OTHER



Empire City Club
Geo. Engelmann, M.D.,
~~3003 Locust St.,~~
~~St. Louis,~~
~~Mo.~~



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MISSOURI
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GARDEN

San Francisco,

Box

Aug., 29, 1881.

Dear Dr. Engelman, Glad to hear from you once more by your letter of the 16th through Elmer. Sent money for *Vitis arizonica* as altogether lost; when I get home, whether I have sent my Arizona coll. I can send you some photo spms. Yes, you are right about the twigs of *Pinus arizonica* being much more slender and glaucous than *P. ponderosa*. The most noticeable distinguishing character.

Sorry to say I get no fls. of *P. chinensis*. When I left the Mts. the winds were hardly developed enough to show the flowers, and I fully expected to return again. This was July 15th. I now hope to go home by the way of Arizona at the end of the year.

I expect to sail for Arizona this morning. Should you wish to write an then address in care of Henry Suterdyf, Portland. I have written Galen Clark now on the coast the red fir comes your desire.

Yours faithfully, C. G. Pluegh.



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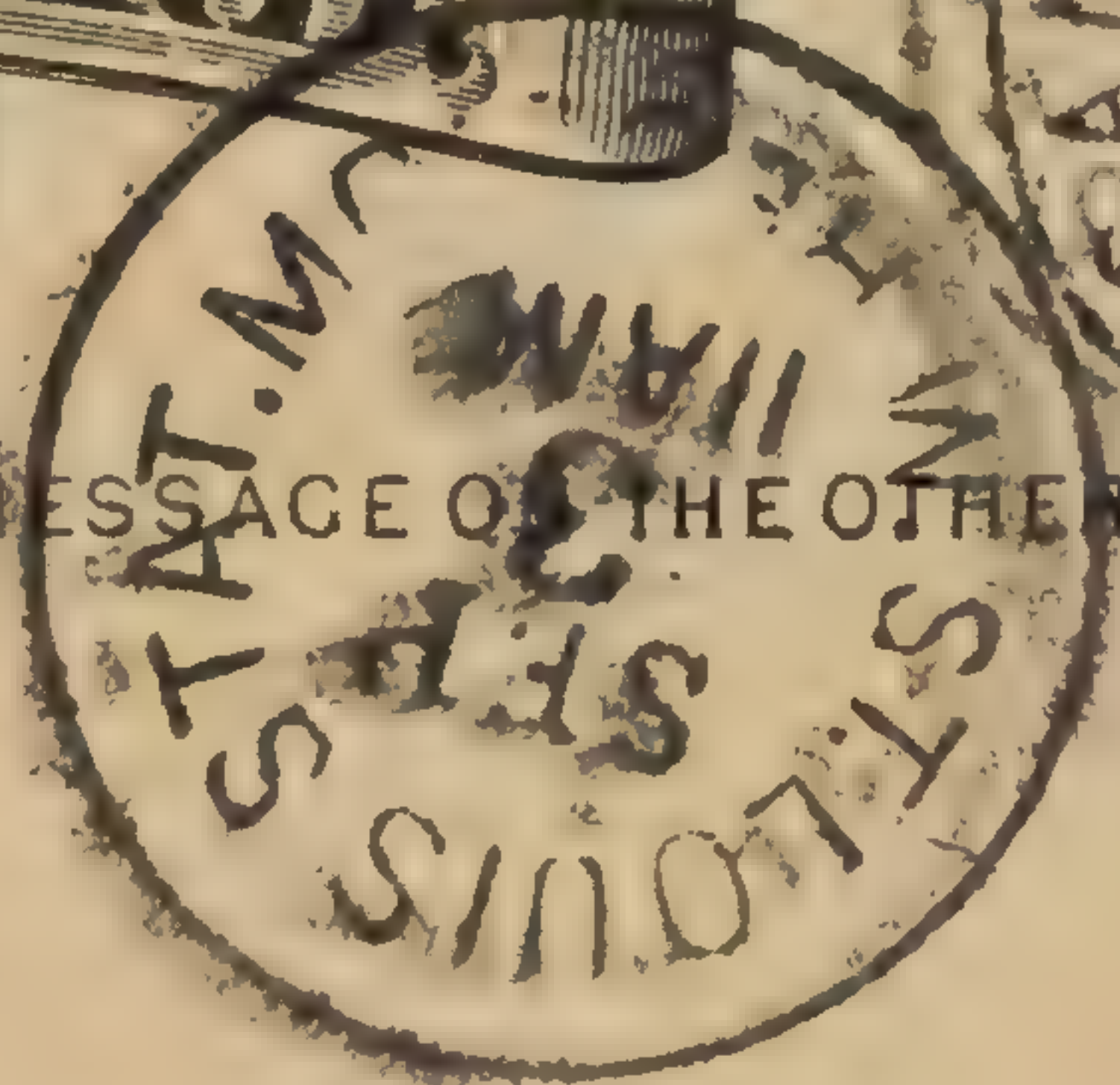


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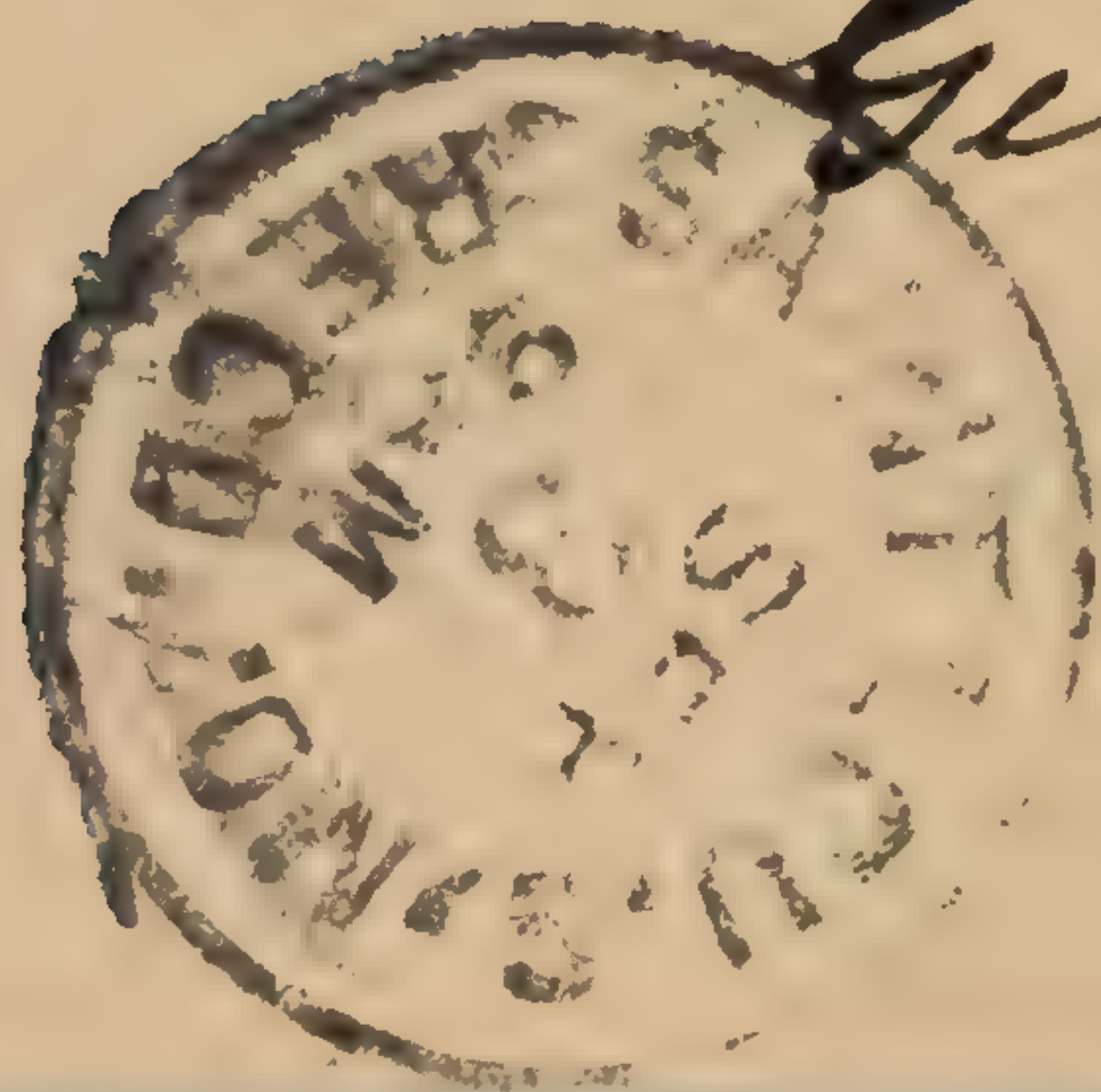
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WRITE THE ADDRESS ON THIS SIDE - THE MESSAGE OF THE OTHER



Geo. Engelmann, M. D.,
3003 Locust St.,
St. Louis,
Mo.



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Portland, Oregon. New Sept 16.

Sept., 1st, 1881.

Dear Dr. Engelman,

By this date you may be at home and may have seen the specimen of the *Cupressus* found by me in the Santa Catalina Mts. of Arizona, in the Herbarium of the Univ. of Cal. at Berkeley. The other day I was shown wood and bark specimens of the tree discovered to the north of Florence, A.T., and Mr. Greene assured me that the character of the bark was identical with that of the tree seen by him in the San Francisco Mts. It was light gray and shreddy like that of *Pinus occidentalis*, while, as you will see that which I sent you from the Sta. Catalinas is red within and scaly. The two must be different species.

I arrived here last evening. Will have headquarters here for a month. Yours truly, C. C. Fingle.



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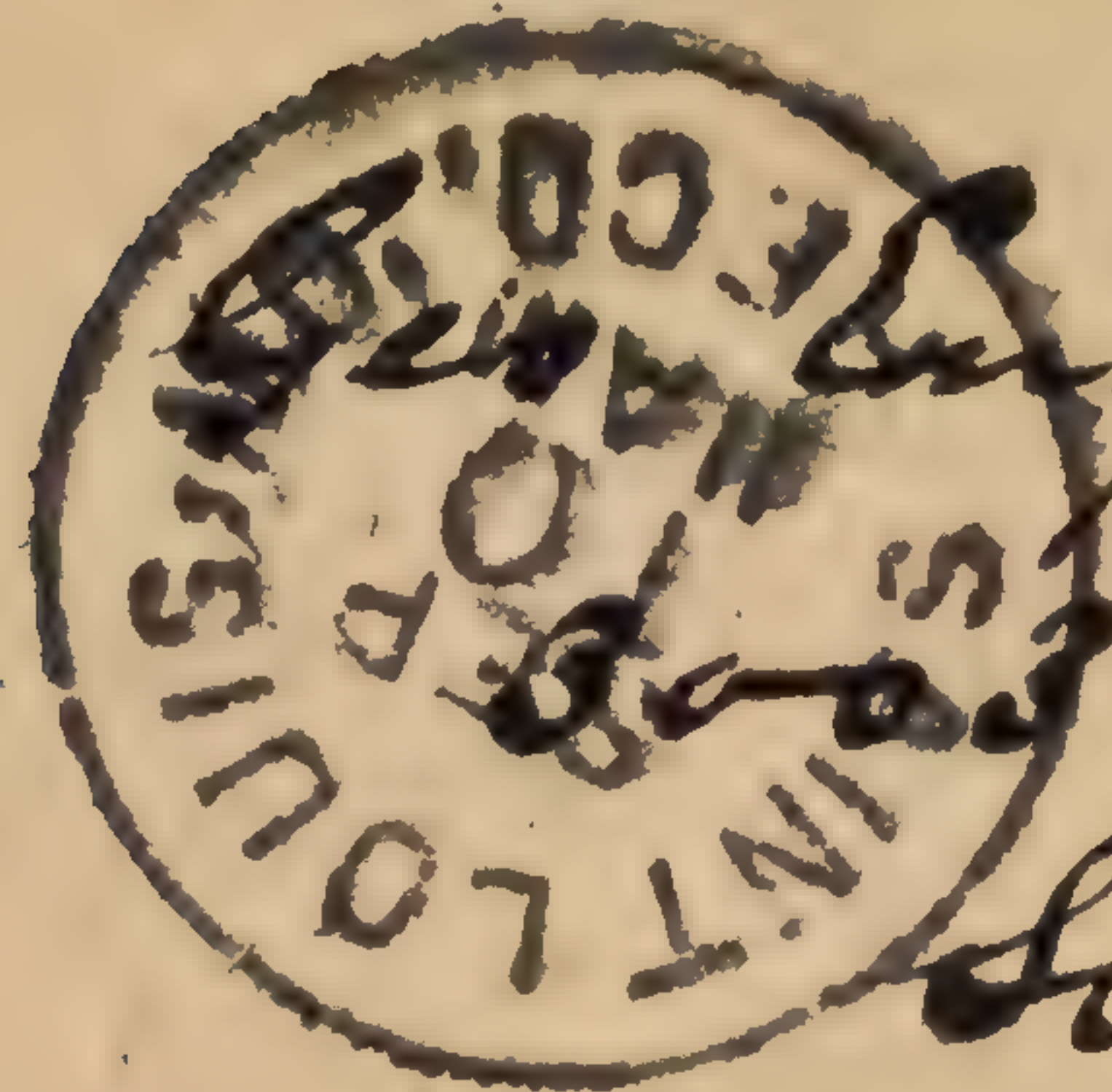
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Engelmann, M. D.,
Cass St.,
St. Louis,
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Rec Oct 27

an Portland, Oregon.

Oct., 18th, 1881.

Dear Dr. Engelman;

By mail I send you
cones of *Abies amabilis*,
and *A. nobilis*, trusting
they will reach you in
fresh condition for your
measurements.

I came north to this
region ~~xxx~~ too early, since
the rains (and on the Mts.
~~snows~~) begin a month sooner
than usual, they hinder my
work greatly. I shall have
to stay there weeks longer I
think.

Yours truly,

E. G. Fingle.



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may be Mexican species already collected
and described. He tells me they have to
him a familiar look, as of those seen by
him in Mexico. I sent you a several time
a specimen of the Sta. Catalina species
with mature fruit together with *Quercus*
myrsinacea in fruit, and several forms,
and in another parcel wood and bark
specimens of the Cupressus of various
ages. Is it possible you did not see these
until you had them from Lammont?

I am just from Colton from Dr.
Parry, who was from into winter quarters
there. Am on my way home to Vermont
for a few weeks at least. I want to
get my collection into shape for
distribution, if possible. Will you please
write me there and say what plants
you would like to receive for naming
besides some specialities of Cactaceae, Eu-
phorbiaceae, Juncaceae, etc.? I greatly re-
gret I shall have scarcely any time for



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The more profitable way of studying them out
myself as far as possible. From Oregon I
sent home a large box (some 25 cubic
feet) of botanical (largely tree) specimens,
and I have a large trunk full of Cal-
ifornian plants chiefly from the vicinity of
Mt. Shasta.

I enclose the prospectus of an ex-
ploration of Alaska, Capt. Schweitzer's
idea and he is to command the expedi-
tion, if it can be carried out. I called
on him to apply for the situation of bot-
anist, but I was undecided whether
it were better for me to go to Alaska
or to work in this South-west and
enter Mexico as opportunity presents. Will
you kindly advise me on this point?

Yours sincerely,

C. G. Pringle.



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Rec Dec 30
An Jan 1st 1882

Charlotte, Vermont.

Dec., 27, 1881.

Dear Dr. Engelman:

Having spent the day
in putting up a mail parcel
containing such plants of my
Arizona and California col-
lections as I have wished to submit
to your examination, I will this
evening write and tell you all I
know about some of them.

But first to reply to your re-
cent favor: — No, I saw no *Equisetum*
about Mt. Shasta. My visit to
that region was but a hurried dash
after two or three pines, etc. Stopping
at Lassen, or travelling on horseback
among the mountains, I smelted up
about 175 species, among them two



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GARDEN

on these new species which you sent
Mr. Francis Smith, when I left
collection in the Acad. of Sc. I found
your new *Campylocarpus* *scabellus*, and
in Castle Lake, for an *Isotria* (as they
call it you call it), which I suppose is
I. Holandii. As yet I have seen only
one *Cupressus* in the west, the one of
the Sta. Collection; since writing you
before about this I have seen the
fruit of *Juniperus* tree and remark
its larger cones. I sent you in a parcel
by Mendel's *Cast. Mexicanum* (young and
old) attached to the wood; sorry if you
did not receive them.

Re again; for the first I brought
home no live cactuses. If I return
early, as I expect, maybe I will send
you some to flower?

Tell, since you and others encourage
it, I will think seriously of spending
more than one winter season in the

Is it *Pinus* rather than *Juniperus*? And the old I distill +



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Is it *Pinus reflexa*, Engelm.? And shall I distribute *Resinella parviflora*, Engelm.?

Dear Sir,

More than to distinguish between
Pinus arizonica and *P. ponderosa*, I
am sure, was I puzzled to separate
the 6th, 8, 11, & 12, from *E. reticulata*,
until I concluded (from their flowering
etc.) that all these forms, and 9 & 10
besides, were forms of *E. grisea*, and *E.*
reticulata was confined to the higher
elevations, a low, dense spreading shrub
on the summit, a small tree in the
upper ends of the canyon. At 7,000 or
8,000 feet elevation *E. reticulata* was
unmistakable. I feel that there is a
difference in the appearance of fresh
leaves that is somewhat obliterated
in the botanical press. Judging from
dried specimens alone, I can acquiesce
in your later decision, but I should
feel better satisfied if I had lived
with you a week or more in the heart
of the Santa Ritas, before you came to



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This conclusive. Then I have still
to get a section of *A. grisea* for the
Museum, for what I got for this
specimen was a tree of No. 2.

Now to my parcel; you will be
disappointed, when you see how small
a share of cuttings I make; but I
beg you to consider that I felt very shy
to the Museum to be in possession, and to
call on every friend there and other useful
persons, when they were coming to their
cists. Will you judge that in showing
both red and yellow fls. of No. 2 I have
mingled species. Linnæus and I agreed
in this that we could see no difference
between the green plants with yellow fls.
and the purple leaved plants with red fls.

No. 3. It is the longer fls that belong with
the joint and jointed branches; ap-
proaching further towards red and and con-
ditions, the joints seem to become shorter and
more springy. Of two species, I could not be
the same between them. In all this I must
beg you to judge. C. C. Fries.



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Rec Jan 13th
An — 15

Charlotte, Vermont.

Jan., 10, 1882.

Dear Dr. Engelman:

Thanks for your letter of
Jan., 10th and postal card of the
7th, with names of my plants.

1. *Cornus polyacanthus* I should say
forms much of 5-10 heads.
2. I am not positively sure about
the forms of this belonging to one
species, but though it must be so,
wish I had kept the forms separate.
3. Plant erect, bushy in shade of cliffs
in deep canyons; what I took for the
same plant, when standing in sunnier
situations was more or less spiny,
more spreading.

Asarum canadense, L., var. *puberula*, Eng.,
was growing somewhat scattered, not



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at all abundant, on the gravelly
bottom under 2-6 feet of water.

I got but a few specimens, being
hurried along by an entomologist—
whom I joined that day in hiring a
guide.

124. *Croton Texensis*, var. I found such
fruit as I have.

138. *Siphocampylus* a few seeds
from a many plants.

Again Palmieri. Since you thus de-
termine the yellow flowered plant
from the Sta. Catalina, I must
needs send you specimens in place
of the one I got on the Sta Rita,
and, from your saying that it

Palmieri from the Sta Rita,
took to be that species. This is
(can it be the same?) with purplish
flowers from 10 or 12 ft. high. No
fruit in water passed by me.



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Leuprosus. Since you did not
receive my bark specimens, it gives
me pleasure to be able to send again.
I can send bark of an older tree
than the one sent to New York.
At Mr. Sargent's I saw the other
day Mr. Smith's ~~bark~~^{wood} specimen
and the bark was much like
that of the young (and another)
specimen I now show you; so I strongly
suspect that the specimen I saw in
Berkeley Herbar. Museum, brought from
Arizona by Dunn (if I mistake not) was
from some Juniperus. As I remember it,
it was just like a specimen of *J. monosperma*
in Prof. Sargent's Museum.

Prof. S. wants me to go (under Prof.
Pursh's and himself) as botanist to the
N. Pac. R.R. Co's Survey of the N. W.
might spend my summers there and my
winters in the S. W.

I appreciate your kindness in giving



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my name to one of the new Euphor-
bia. Shall be glad to visit you
if possible, when returning to the
S. W. I suppose I shall go in Feb.
just directly to San Diego and then
S. E. from there after Mr. Pinner's survey.
Yours faithfully,
L. G. Pringle.

Please give me again the name of the
Zizyphus; your letters are with my plants,
etc., not yet arrived from you.

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Rec. Feb 1

Charlton, Vermont.

Jan., 28, 1882.

Dear Dr. Engelman;

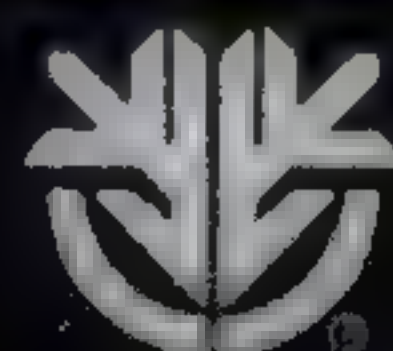
When I crossed the sand
waste between the Sea Beach and
the shore of Cross Bay, Oregon, I
remembered Mr. Sargent's mention
of a fungus which you saw there
in his account of your journey
published in the Gard. Chron.,
and looked for nature's specimen
not knowing whether you found it
in condition to identify. I found two
specimens which I can not match
by any specimens in my coll. I find
your specimens of them and there
others, my box having come from
Oregon. I also, specimens of an *Erythronium* ^{floribundum}
I cannot place right. Glad you
sustain my belief that my *Ar-*
izone can be in not *E. Drybasii*.
Mr. Watson thinks the botanical
outlook along the Pac. R. R. not
promising, and I don't want to go
there, I much prefer to work in the
S-W and help you with *Cuscuta*,
Collinsia, *Asplenium*, etc. I wish Mr. S.
would not put me in *Fringilla*.



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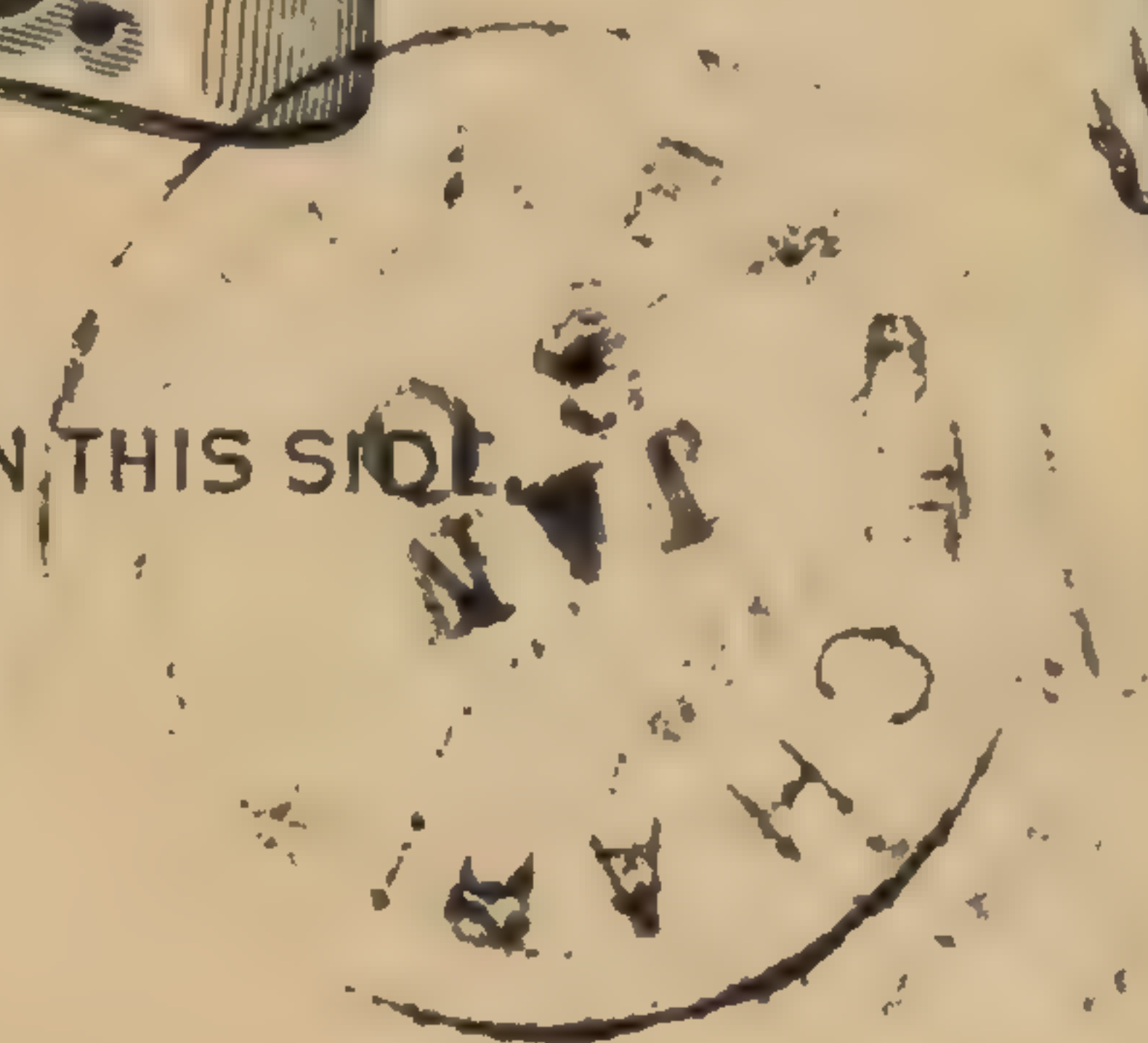
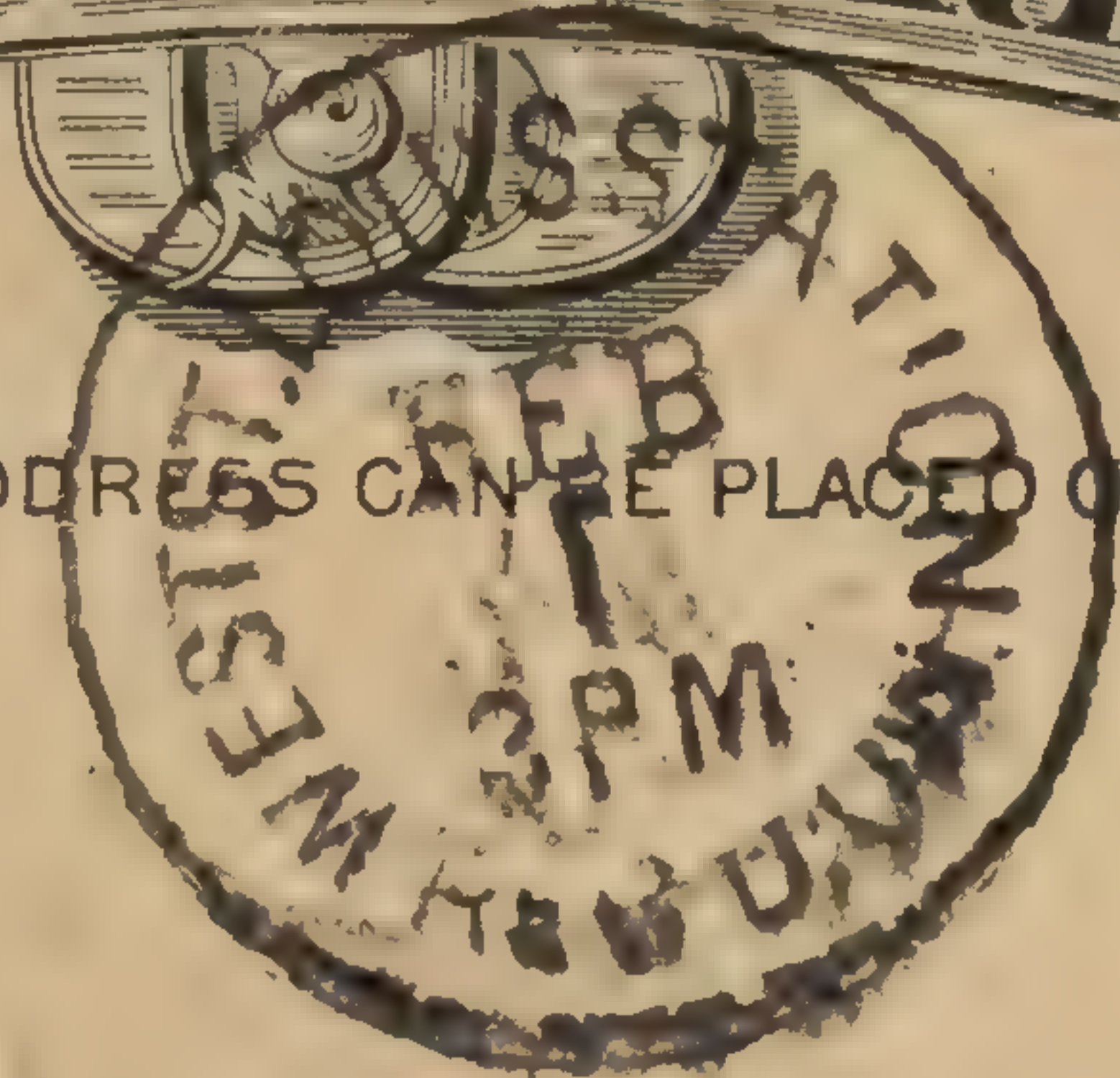
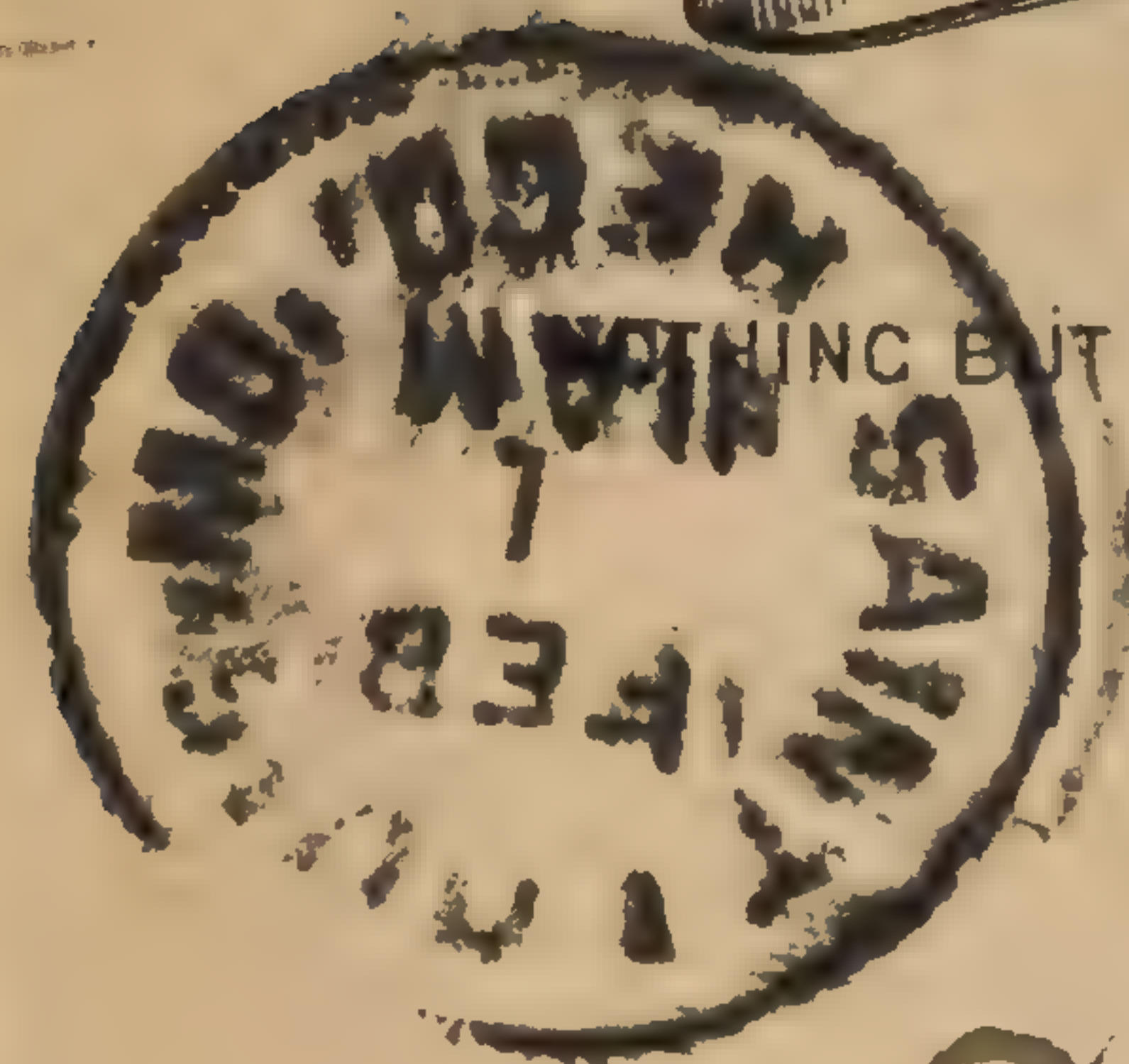
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POSTAL CARD.



NOTHING BUT THE ADDRESS CAN BE PLACED ON THIS SIDE.

Dr. Geo. Engelmann,
3003 Locust St.,
St. Louis,
Mo.

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Charlotte, Vermont.

Feb., 6, 1882.

Dear Dr. Engelman;

Thanks for the names of
the Junci: a few years ago you
kindly gave me your monograph
on Juncus and so many species
of your Herb. Norm. as you well
remembering. I was never so fortu-
nate as to see more than the Con-
tinuation of your paper on Oaks,
and that on Agave I never re-
ceived at all. If I do not call
on you on my way back would it
not be well for you to send after
me a pleasant letter?

I had it said you were of the new
"By" race, I know Dr. Gray had not
enough for two good specimens. I
sent Dibulus sp. again and perhaps
with better fruit to ask if it is really
T. Californicus.

Your advice not to go north west-
as agreeable to me. I intend not to
go. I need several days more to get
only 16 to 20 more.

Yours truly, C. C. Pringle.



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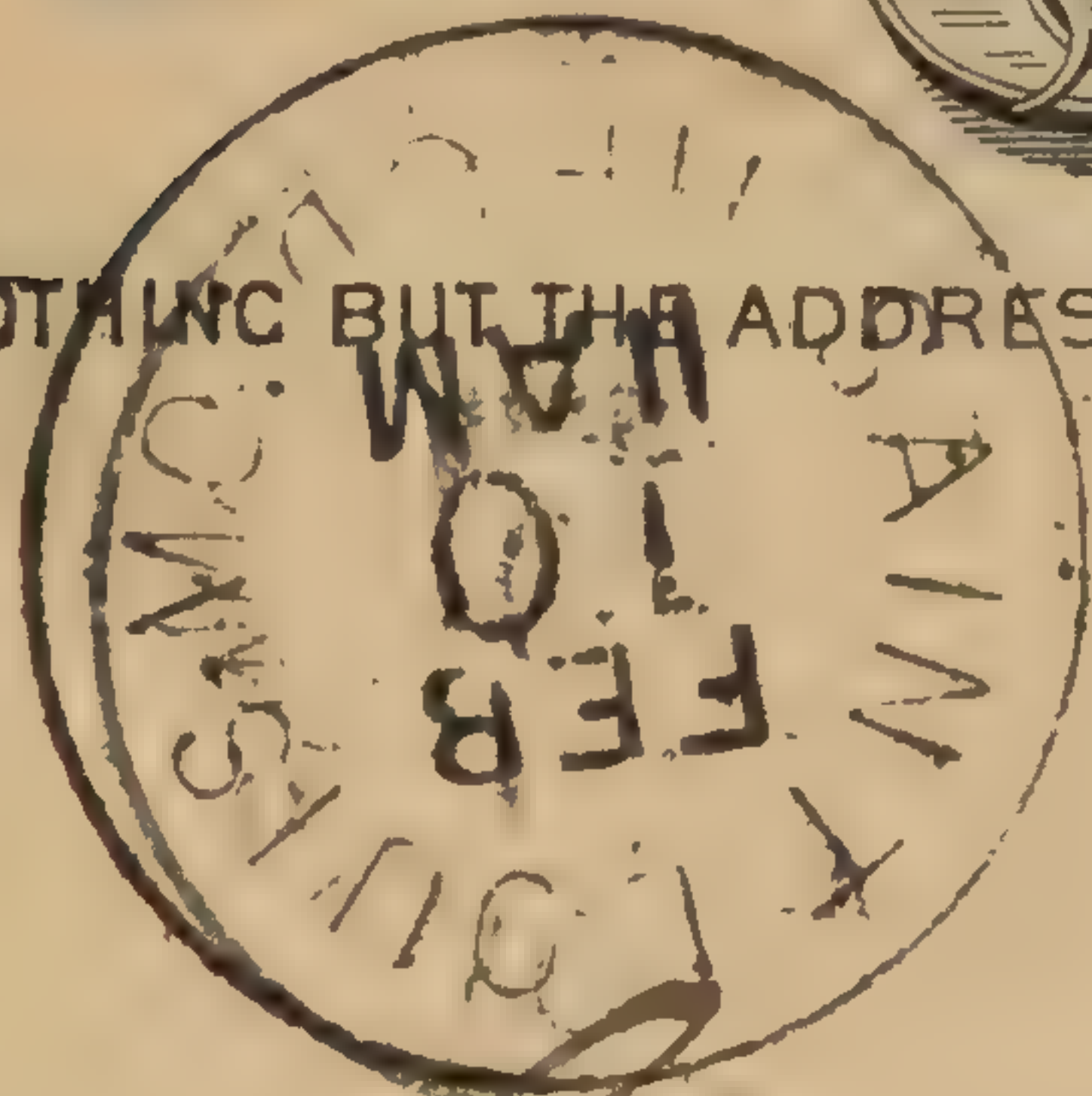


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Rec May 2^d
Apr — 5

San Diego, Cal.

April 24, 1882.

Dear Dr. Engelman;

I have just returned from
a tour of eight^{—days} and 300 miles
extent mostly in Lower California.
A part of the time I travelled with
Parry and Jones, and of that time
send Dr. Parry has written you.

Leaving the company of these
gentlemen (Heaven save the mark
with respect to the younger man!) at
San Rafael, a little village 90 miles
south east of here, whence they returned
homeward, I travelled east 30 miles
to the summit of the central plateau
of the peninsula, thence west of north
80 miles along the summit to Camp,
just on this side the boundary, and
thence 50 miles back to this place.



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The altitude of the central plateau
traversed varies from 4000 to 6000
feet; it is an undulating region,
the rock granitic, little decomposed,
and is studded thickly with granite
knobs and ridges, often mere cumuli
of rounded granite boulders. The soil
is sandy, much of it - seems nothing
more than pulverized granite.

Before turning northward and at
an elevation of 4000 feet groves
of *Pinus ponderosa* were met with
occupying the better soil of the
plains or depressions among the
hilllocks. After I had got some ten
miles on the northward trail I
began to see scattering specimens or
clumps of *Pinus Parryana*. The eleva-
tion was about 5000 feet. Here this
species was always confined to ^{the} dry
and ungray granitic soil of the hills.
Pinus ponderosa soon became so



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numerous as to form a thin
forest, only the rocky hills it relinquished
entirely to *P. Parryana*. *Quercus Emoryi*
was associated with *Pinus ponderosa*,
with *Pinus Parryana* occasional
specimens of *Quercus chrysolepis*. Such
was the character of the arboreal growth
for 20 miles north of the point where
P. Parryana was seen. When the highest-
elevation (6000 ft.) was reached *P. Parry-*
ana became more multiplied; and *P. pon-*
derosa more reduced in size and numbers.
For the next 20 miles *P. Parryana* was
the prevailing tree covering the undulations
of the country as far as the eye could reach
in every direction with its dark bluish
green foliage. As a young tree, conical
in outline, symmetrical, its fine branches
closely set, so as to form a most ornamental
tree. As age its top becomes more
irregular, its outline oval; it attains a
height of 20-30, rarely 40, feet and a



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diameter of 12-18 sometimes 24 inches.
The tree except in rare instances branches
from the base. In a little gulch we
found a clean trunk some 14 inches in
diameter which we secured for the
Museum. When we descended to 4500
and approached within 25 miles of
Campo the species disappeared altogether and
P. ponderosa was only seen straggling on
distant mountain tops.

Of course I was too early for flowers of
the pine, but I secured such specimens
as I could, and saw one specimen in a
jarred with a strange Agave (young plant
with capsule) seen in dense clusters at
6000 ft. on dry hills; stalks 4-6 ft.,
pinnate & 8 inches broad and 15-long,
close. I also saw a piece of bark with
wood of *Pinus Parryana*.

No *Cupressus* seen. *Juniperus* Cal. in one
locality. goes further fully.
Next address Cotton, Cal. C. L. Pringle.



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Rec May 29
Ans June 11

Colton, Cal.

May 22, 1882.

Dear Dr. Engelman:

I think the flowers of
Agave Schottii, which I surely dis-
patched to you, must have been in
the parcel that was lost in the mails;
but be patient, for I am planning to
be amongst the Sta. Catalinas at the
time of its flowering this year.

In the matter of the *Agave* from
the Backbone of S. Cal., I am very
glad to hear that you consider it an
undescribed species so I can have some-
thing good to show for the trip, since
Jones wishes to appropriate to himself
exclusively the *Rosa* (first-seen by me,
first-touchd by him,) and inasmuch
as Mr. Sargent is displeased with me



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for having ventured so long a trip,
and will probably throw back upon
me a large part of the expense of it. .

Don't suppose that I did not try
to get to you a mature plant and a
panicle. Then, however, in the journey of
100 miles over rocky, untamed moun-
tains to get back to San Diego, I on foot
in the worst places, were jolted from the
wagons and lost; only the young plants
some you and two or three capsules came
through. I should say that adult plants
are 15-18 inches broad, the leaves there-
fore some 10 inches long and wider than
yours in proportion. Yes, it is a paniculate
species, the branches in the way of a Pal-
meri, only short, not more than 3 or 4
inches long; I should say 6-10 flowers
on each branch, for the panicle was
dense, and the branches must be as
numerous as in that species though close-
set within the 15 inches mentioned;



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though so short—they branch again, I should
say as in *A. Palmeri*. I recollect nothing
of vestiges of flowers about the capsule.

Now I long to return to that strange
country, and I may yet be able to tell
you all about this plant and show
you specimens.

I have just—come in from a most-
enjoyable ten days' trip to the Mojave
Desert for *Yucca baccata* *bracteata*,
etc., bringing home some 50 species for my
self among which are a good number of
choice things and an undescribed *Lupinus*,
probably.

Soon I shall go to Arizona for a few
weeks.

I began to find ^{James} a disagreeable botan-
izing companion from the first; and
after a few days his conduct became
almost intolerable, and took away
nearly all my pleasure in the trip;
but for the genial companionship of



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Kind and gentle Dr. Parry, I should
have been miserable. I gave Jones much
good advice, but fear it was wasted.
It is mortifying to know that he has
become so conspicuous abroad as an
American collector. Darbey writes to
the Parish Bros, — "We are very much
displeased with Marcus E. Jones deliver-
ing & standing here for Americans, but have
nothing to say before such dear and
outrageously delivered plants as his!"

Thanks for your Scott's paper
which I shall hope to time to study.

No forgetting of Cupressus, you may
be assured.

Yours faithfully,

L. G. Pringle.

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Colton, Cal. Rec Jun 6

May 31, 1882.

Dear Dr. Engelmann.

I wish to show you a
few things.

Colton, Texas

1. Colton, Texas, March 31,
2. Tejon Pass, Cal. May 13, 1882.
3. " " " " " "

4. Mojave Desert May 12

5. " " " " " "

6. Hills of Mojave Desert, 1840
high on fork in diameter.

7. Hills of San Diego Co., April 18.

About San Diego I saw the
choicest species, you were so good
as to point out to me. Monarda
achaeae just in flower. I saw
some later and when I get labels,
if desired.

Now I am off for Arizona.

Yours faithfully,

C. G. Pinyan.

Tucson, Arizona.



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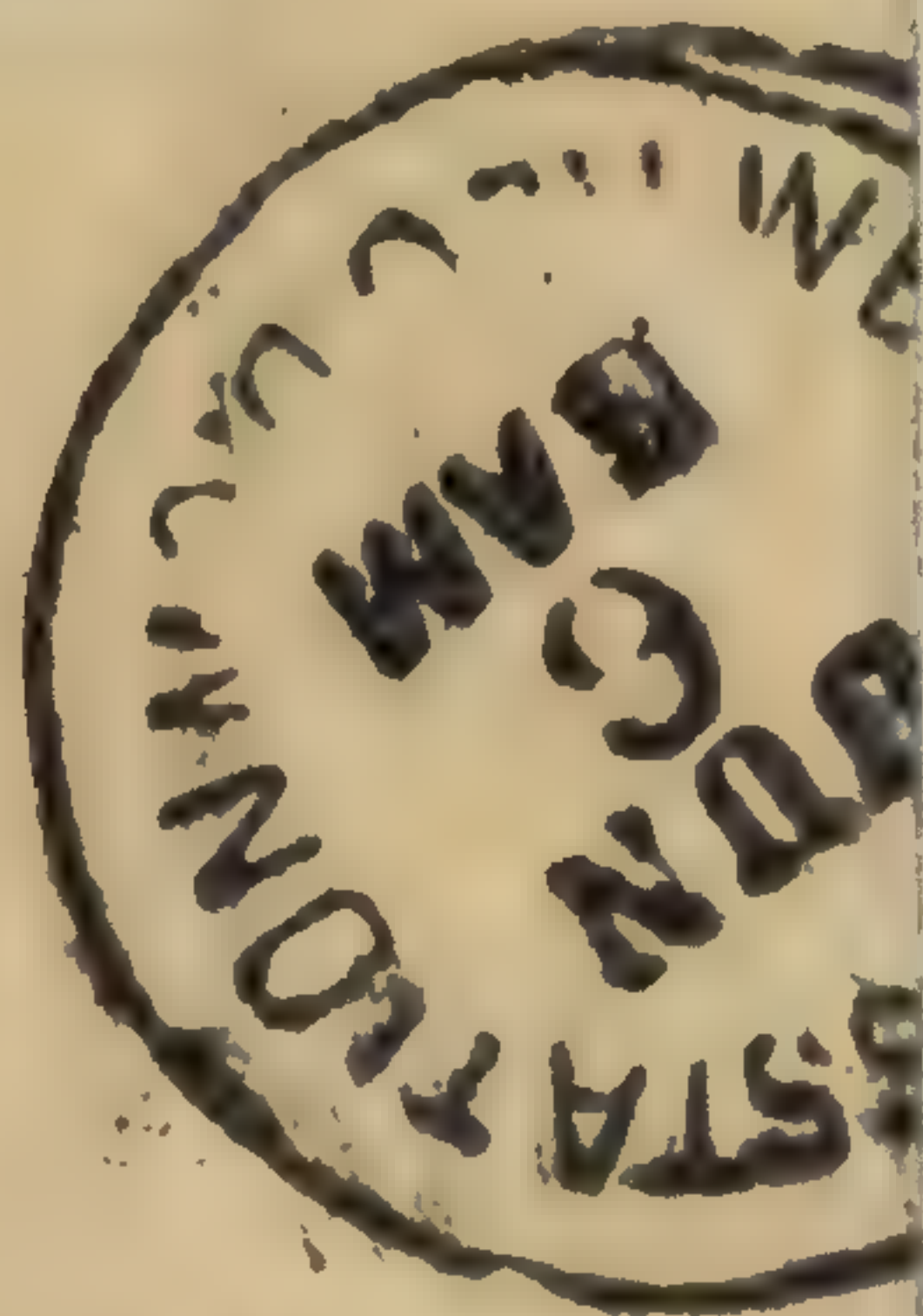


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Reed June 15th
Los P.C. June 17 & 24

Tucson, Arizona.

June 10, 1852.

Dear Dr. Engelman;

More to say about the
Cypresses of the Sta. Catalina Mts.
You may remember my trying re-
peatedly last year but in vain
to follow up the streams on which
I found a few small trees and thus
to penetrate to an interior valley, where
I thought to see more of this tree. On
a recent visit to those mountains
by going over the mountains from a
different direction I was able to
reach this valley, and there I was
delighted to find the Cypress ~~now~~ in
its home and in its full glory. With
Platanus wrightii, *Alnus oblongifolia*,
Fraxinus pistaciifolia, etc., it formed



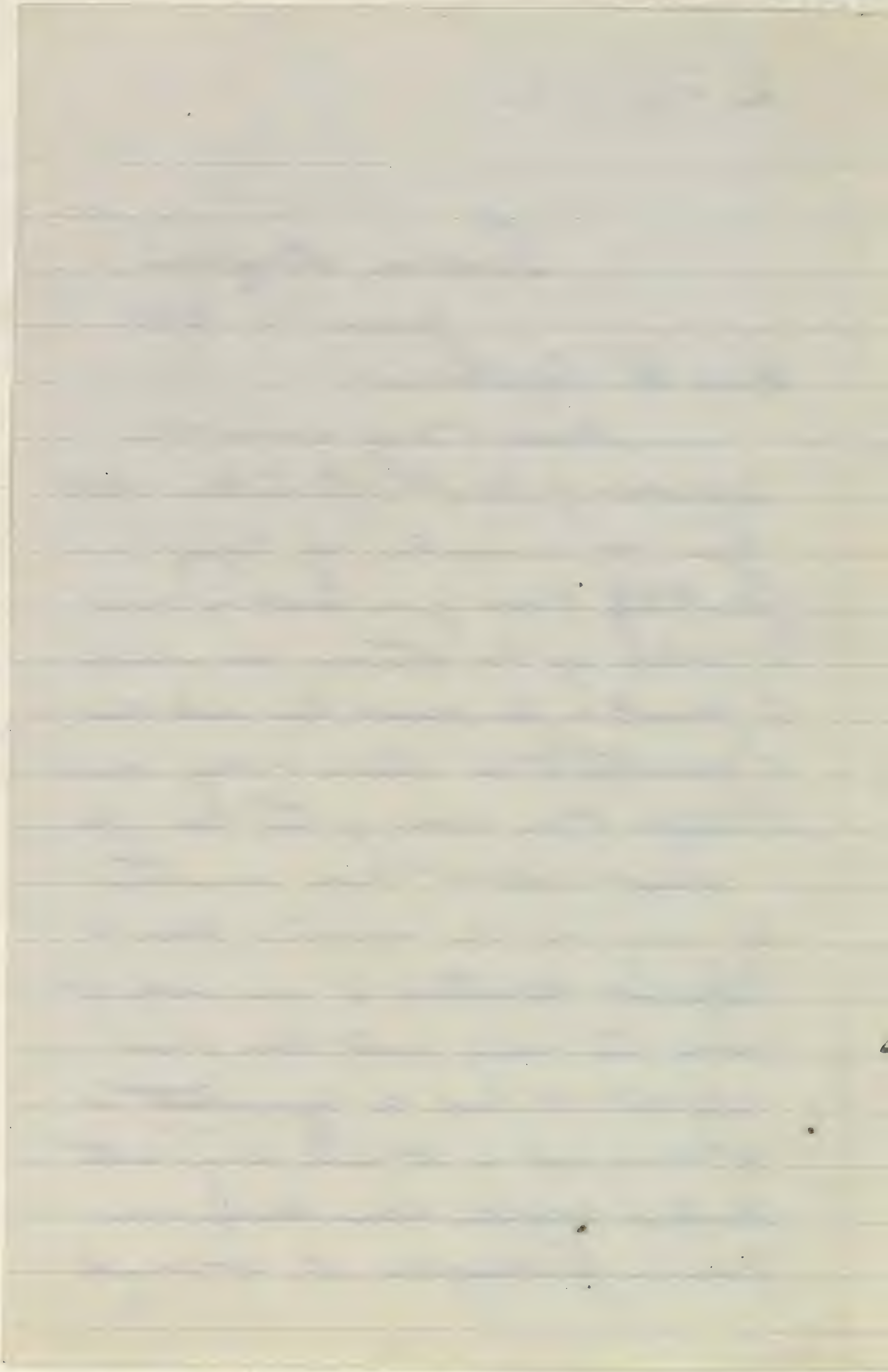
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narrow belts of forest along the streams.
Specimens two or three feet in diameter were
not rare and we measured one whose
circumference was 13 feet at four feet
from the ground. The stems were straight
and numerous furnished with branches
of moderate length, spreading nearly horizon-
tally. The height of the trees was 50 to 75
feet; their outline rather narrow. The bark
of these old trees was deeply furrowed.

1. By mail I send you a piece of *Cyperus* bark;
2. A specimen of a *Juniperus*, in the hope that
you can tell the species from so young fruit;
3. Flowering specimens of a *Pinus* also from
these mountains, known in them as all the
trees examined, rarely in flower;
4. And a piece of flowering spike of *Agave
Schottii*, which I could not keep fresh.

I shall have my mail come here for a
week or two longer, than my care of Dr.
Parry. Yours sincerely,

C. C. Fernald.



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Rec Aug 2^d
Am 4

Santa Cruz, Cal.

July 27th, 1882.

Dear Dr. Engelman:

Fifteen miles north from this city on the mountain is a district known as Pine Flat; there, thinly scattered over a tract about a mile in extent, composed of poor and dry sandy slopes and knobs of granite, grows a cypress in company of *Pinus tuberculata*, *Arctostaphylos* *tomentosa*, and other shrubs. In those places, where the soil is thinnest, it is only a shrub or small tree, branching at the base; but in one place, near the house of Mr. Butler, where the soil is comparatively fertile and moist, it attains a height of 30 or 40 feet and a trunk diameter of 18 inches. with



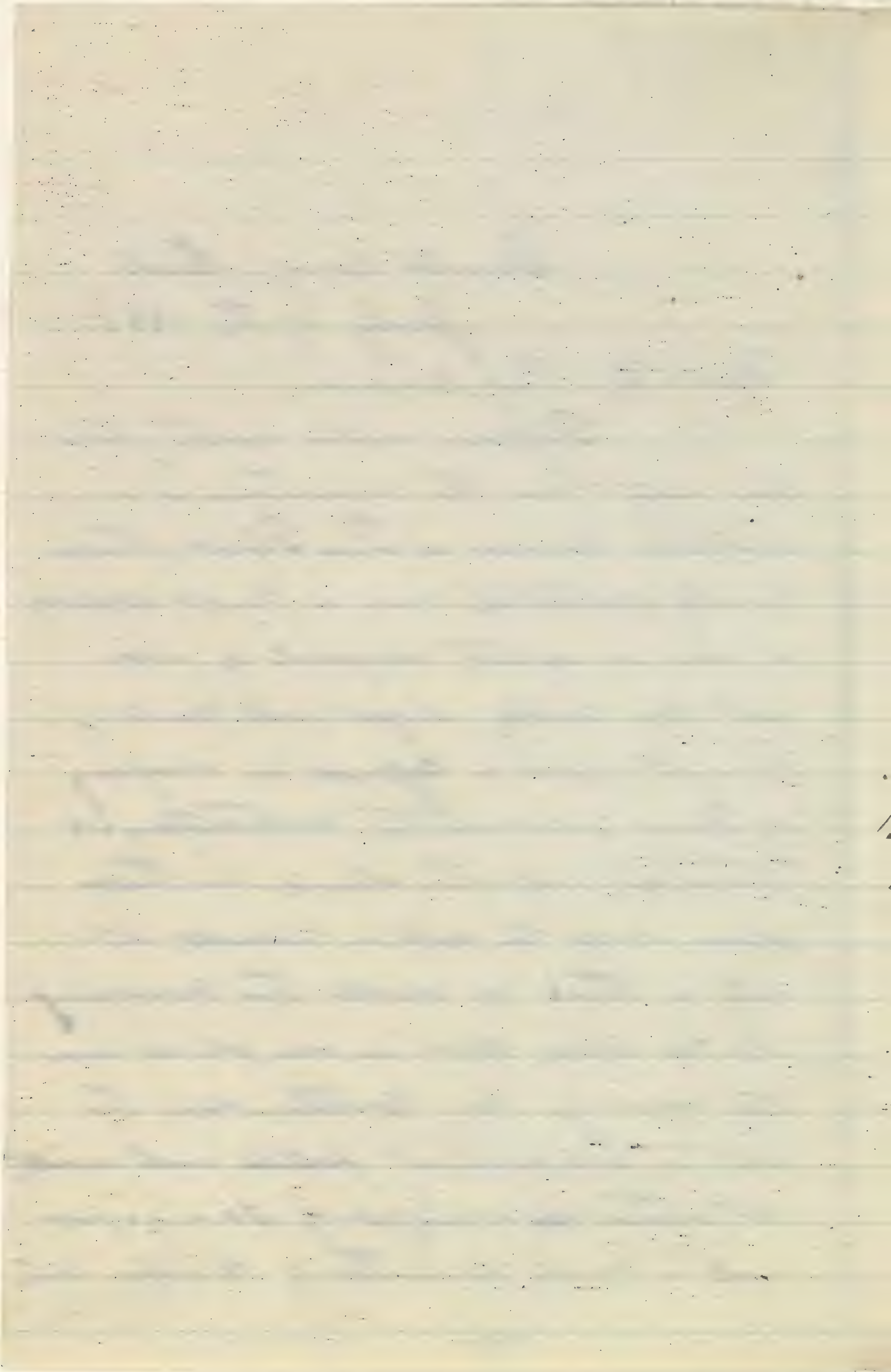
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tree of this size I can get an idea of
the habit of the species, which I could
not do with the miserable dwarf of
the hills near Monterey. This appeared
quite different from that of the tree of
"Monterey Cypress" of similar stature now
common in plantations in this state.

The branches are more divided, so as not
to present so virgate an appearance; and
the color of the foliage is, I think, not so
deep a green.

In two parcels by mail I send you
1st a piece of wood with the bark attached,
2nd, a piece of bark from the foot of
the tree (both from the same tree, — one
of the layers cut for the Am. Museum)
and various twigs with cones.

I expect to return tomorrow to San
Francisco, and to go soon to Mendocino Co.
Address for another month care Academy
of Sciences, S. F. Yours faithfully,
L. G. Dring.



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Rec Nov 6th

Capital House,

WM. H. SPAULDING, Owner and Proprietor.

\$1.50 and \$2.00 per day, } According to location of rooms.
\$7.00 to \$10.00 per week. }

Madison, Wis., Nov., 4th, 1882.

Dear Dr. Engelman;

I have abruptly dropped
the Museum work, and am on my
way home. I am sorry I could not
have kept to my resolution to carry
through to the end of it; but Mr.
Sargent became intolerable, and I was
not able otherwise to maintain my
self respect. Since I declined a second
time last spring to continue in his
service, and away for several years on
the N. Pac. R.R. Survey, I have been
unable to please him. He demanded
impossibilities of me; is angry because
I did not put together everything required
by July; chafes me with having made
~~my own~~ the work of the Museum
incidental to my own collecting; dis-



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regards my assertions to the contrary and
my explanations; and, finally, withholds
approval of my bills (thus leaving me with-
out funds,) in order to bring me to time.

I was anxious to call on you, as I
passed; but it was necessary for me to use
my pass, which took me as far as Chicago,
and return there to Brooklyn without
delay.

I have not heard from you since
your return from the east, or rather since
your study of my specimens of *Cupressus*, but
think it probable that a letter will be re-
turned to me from California.

I sent you more material of *The Agave* sent
for me by the Agents of San Diego.

On reaching home with seed fruit of
Quercus pomifera; but the botanists are split.

Has your recent study of *Gleditsia* caused
you to change your opinion of them I send you
named by you as *The tree of California* and
E. Newboldii? Yours faithfully,

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L. G. Tringali.



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Rec Nov 17
Am - 30

Charlotte, Vermont.

Nov., 11th, 1882.

Dear Dr. Engelman;

I was very glad to find your letter of the 7th in Charlotte, when I reached here after a few days spent by the way in Wisconsin.

Hither also had come yours of Oct., 10th, sent after me by Dr. Fargy via Tucson.

First concerning the Agave. I confess, when I received Orenth's material, I felt misgivings that it might be A. deserti. The specimen looked different from my recollection of the plants I saw. The branches of the panicle were so much longer than those of ^{the} panicle I gathered, and the capsules were longer and narrower with like those of A. deserti. The



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teeth of the leaves seemed weather.
Your *Orcutt* must have collected
very near the same locality as I did.

But did I not tell you at first
that what I took was a narrow
panicle? You quoted my words
thus, — "panicle 8 inches broad and
18 long." In panicle, capsule, and leaf
Orcutt's plant is not different, (so
far as I can see,) from *A. deserti*;
the flowers I could not compare; do
you judge them to be the same? If so,
the question still remains, — did *Orcutt*
find my plant? I presume he did.
Do you think so?

Quercus Emoryi: yes, I saw it on
the mountains of L. Cal., at 4,500
1,500 feet elevation, and told Dr.
Parry; did I forget to report it to you?

Now for Cupressus. I am glad
you keep *C. macrocarpa* distinct
from *C. forbesii*. I did not



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forwards you sufficient evidence to
unite the two, though I believe it is
to be found. Now I wish I could
have explored along the coast - more
than three or four miles, as I did at
Mendocino. Mr. Sargent was displeased
with me for giving so much time to
Cupressus; it was four weeks, during
which time I gathered and shipped
down large tree sections.

I do not know whether the three
species of *Cupressus* in California shed
their needles in autumn or in spring. This
question presented itself to me also; I am
sure that the male flowers become fully
formed in autumn. I saw them more
advanced in the *C. Macnabiana* than
in the other two. I think that I ob-
served certain trees of *C. Macnabiana*
to bear a proportion of male flowers and
and a small proportion of cones, and
others to be doing the reverse; but I never



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received very strong hint of diacism
among *Cypripedium*. Last autumn on Mt.
Hart I saw the male flowers of *Chamae-
cyparis Nuttensis* so far matured as to
suggest that they would shed their pollen
before winter; but Galen Clark of Yo-
semite, who was with me, judging from the
similar behavior of *Juniperus Californica*
was sure they would wait till spring.
That the specimens sent you have only
mature old cones is only accidental; most
of my specimens show both old and new,
the latter being found.

No transition observed by me between
C. Macnabianum and the tree of *C. serotinum*
by the stream below. I told you the habitat
of the two was very different.

F. A. Miller told me where he ^{found his}
specimens to send you, — but a few ^{miles from} miles from
hills beside the same stream — Kelsey Creek,
but he appeared to be in much confusion
as to species of *Cypripedium*.



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5-

I send you by mail two specimens of oaks. The fruit is from the same tree you thought to be *Q. grisea*, var. *pringlei*; hills bordering the Mojave Desert, Cal., Oct., 21. The city ledons, as far as I examined them were distinct, not united. Is this the same as you received from Brewster? Shall I distribute it as above?

The other specimen (from the same locality) is from a strange tree, which I cannot understand unless on the hypothesis that it is a hybrid between the one mentioned above and *Q. oblongifolia*, both of which were growing in the vicinity. The tree was as large as *Q. oblongifolia*, more than two feet in diameter and 30 or more feet high. Its bark was like that of *Q. ob-*



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longi folia not so scaly like
A. purpurea to whose leaves its
foliage bears so close resemblance.
A. purpurea in that vicinity attain
a diameter of 3 to 12 inches and
a height of 8-15 feet.

Yours sincerely,

L. G. Pringle.

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GEORGE ENGELMANN PAPERS



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Rec Jan 5th
am — 12

Charlotte, Vermont,

1, Jan., 1883.

Dear Dr. Engelman:

I send New Years greeting
and assure you I am glad to hear
from you again by your card of the
27th Dec., and especially glad to hear
that you find the L. Col. *A. glaberrima* distinct.
Now I shall distribute it.

I send you leaves. You may
notice that the teeth are deciduous, or
at least fall easily away, or as to be
mostly wanting in adult plants.

Some other things go with these; —

Twigs of *Pinus Chilensis* got on
the Santa Rita Mts, June 24; They show
the male aments not yet perfected.

A *Rhus* ^{*glaberrima*} in flower same place and
date; is this the plant to which you
direct my attention?



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radians

A perennial *Euphorbia* (?) from the mesas
of Arizona, June 26.

And an annual *Euphorbia* from the
Santa Cruz Mts., Cal. July 26. *Leptopora*

And, finally, a little *Erythraea* ^{ovata} from near
San Diego, May 5.

Greatly desiring your photographs,
I send mine;

And send my list of 1882. If this
contains anything you would like please
let me know.

I cherish the purpose of returning
to the Southwest, if I can sell plants
enough to nearly pay expenses; but hardly
expect to get ready to leave by next
spring.

Yours sincerely,
C. G. Pringle.

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Rec Jan 22

Charlotte, Vermont.

17, Jan., 1883.

Dear Dr. Engelm.

Thanks for the names of
the Euphorbia, etc.

I cannot recollect whether I
sent you my list for 1881, or for
1882, or both, and therefore am at a
loss to know which set you will take.
Accordingly I send you both lists now.
I can spare you a set of 1881, and
I have many of the others still on
hand since I made up 22. I will
not open the sets to take out what
you have had but will put down
the price to you, — say \$30. for set of
1881 and \$35. for that of 1882, or \$60.
for both. They are bulky, and must
go by express.

I have not in the least



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abandoned my purpose to botanize
in our Southwest and in Mexico
extensively, and to study under your
direction the Cactaceae, Agaves, Conif-
erae etc, of those regions. I wish to
stay at home till I can get my
collections nicely mounted and arranged
in my herbarium, and until I can
obtain pledges of sufficient patronage
to much pay my expenses.

Glad you can establish Agave
Pringlei.

Yours sincerely,

C. L. Pringle.

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